

# From The STAFF

W.T.F.D.A. Headquarters, P.O. Box 514, Buffalo, NY 14205

1983 ENDS WITH A BANG...We hope it wasn't the sound of your DX antennas coming down! Unfortunately, that's just the kind of disaster that has been happening during the past month or so. Much severe weather, mostly in the form of high winds and heavy icing, tormented TV and FM DXers across North America--where winter seems to have arrived early. We've already heard about one super TV DX system downed by the winds, that of Glenn Jacobs in northeastern Pennsylvania. Word has it that Glenn's not wasting much time in replacing it with an even more impressive system--it may even be going back up into the sky as you read this!

MIDWINTER SKIP HITS EARLY PEAK?...No doubt related to the unusually extreme December weather, skip activity was nothing short of spectacular in mid-month. So many openings have taken place that a few longtime DXers are convinced that an early peak took place. The week centering around New Year's Day usually sees peak midwinter Es occurrences, but this season may be an exception. It now remains to be seen what kind of midwinter tropo ducting shows up this month. We hope you'll be watching for it. When it happens, it usually is widespread enough to make a nice break from the usual winter VHF DX slump.

MEMBERSHIP LIST IN THIS ISSUE...Your comments to HQ indicate that there was no need to list members' full addresses in the membership list that appears this month (see page 36), so to make the most efficient use of VUD space, members are listed by location. If you are someone who needs address info, such as an officer of a DX club conducting a membership drive, or a DXer hosting a regional get-together, please feel free to contact us. We can provide you with any such data that we've been authorized to release.

CLIP REPRINT SERVICE...We are planning to resume the W.T.F.D.A. article reprint service soon, allowing members to obtain copies of past VUD articles at a nominal price. Many members have been asking for this service, so watch for an announcement in the near future. When it resumes, W.T.F.D.A. will offer a free catalog of articles available.

W.T.F.D.A. MAILBOX: Listen to Glenn Hauser's "WORLD OF RADIO" on WRNO...3
TELEVISION NEWS: Retrospect: 1938 and before.....4
EASTERN TV-DX: New Mexico's newest station is seen via Es in GA...10
CCI(UNIDENTIFIED DX): Similar logos could make for more unIDs.....11
WESTERN TV-DX: Super tropo continues in areas of the West.....12
ANTENNA NEWS: Transmission line impedance, the whys & wherefores..16
FCC FM NEWS: KRXV and KXVR are both radio for the road.....19
NORTHERN FM-DX: Ernie's first DX report using his new Mac MR-78...25
QSL CORNER: Holbrook verifies 8 watt FM from Brooklyn, NY!!!!....26
SOUTHERN FM-DX: Editor looks back on a decade of DXing.....27
FM STATISTICS: Computer now used to calculate mileage for records.29
VHF UTILITY DX: Winter weather brings a flurry of radio activity..33
PHOTO NEWS: Some excellent Tr & MS from Ely, Gaines, and Pizzi....34
FEEDBACK: On station totals appearing with DX reports.....35
W.T.F.D.A. MEMBERSHIP LIST: Who's where in 1984.....36
EXPERIMENTS WITH A HOMEMADE FM YAGI: Part 3, at last.....39

Cover material courtesy of Doubleday Broadcasting.

# MAILBO

January 1984

The Mailbox column depends on one thing more so far, I'm sorry to say, I haven't received any general membership. Remember - this is your column and I think might fit in to this column.

And now...the following will be a standard names listed below are the W.T.F.D.A.'s newest members: former members who have rejoined the club. Welcome, case may be. Glad to have you aboard!

Paxton E. Pickrell	Mt. Airy
Chris W. Johnson	Memphis,
Mario Panzeca	Norridge,
Michael Cunningham	Harrisvi.
Robert B. Johnson	Big Rapid
John M. Adams	Seaside,
William Gilbert, WDX2RVW	Kings Par
Mel Murray	Alexandri
Doug McAbee	Goodrich,
Mike Dorner	Metairie,
Jay M. Novello	Endwell, N
Jorge Burgos	San Juan,
Matti Niit	Vancouver,
Gene Cooper	Lompoc, CA
Dave Jones	Dayton, OH

And now for a fine example of what you should feel for. This is from Robert Goodman, and in his own words:

"...a little known story from the 1982 Staten Island when I wheeled Mike Reid into the emergency room for injured foot, there was a box containing thirty diagram electrodes. The box said: "contents-30 offset

Also, thanks to Mr. Goodman for supplying me with the information. Many of you are probably familiar with the informative "World of Radio" program. This show covers the DX world, and should be of interest to everyone. The show can be heard on WRNO, the shortwave station from low is the schedule of both time and frequency that I heard on.

All times C.S.T.

Fridays	11:30 PM	6.185 Mhz
Saturdays	8:30 PM	6.045 Mhz
Sundays	8:00 AM	9.715 Mhz

**WRNO**  
worldwide

Till next month,

## IN STATIONS

JANT  
R. Powley  
Row D. Nelson  
al Plains Commu-  
nity  
wood Enterprises  
etown Television  
ay of the Cross

Maceo K. Sloan &  
aph Thompson  
Jamestown TV Asso-

G. Mendez Educa-  
ation  
Family Media Inc.  
k Communications  
sociated Communi-  
orporation  
igh Tech Industries  
omen in Broadcasting  
hn R. Powley  
y of the Cross - Utah  
e Amalie; Consumer  
al Research & Devel-  
elopment Center (re-  
)

e; Ebony Telecasters  
e; High Definition TV  
ee; KUSA Brewer's  
sting TV

ee; Powell Community  
ion  
ee; Wisconsin TV Own-  
& Management  
gan; Hometown Televis'ne;  
Dunhamel Broadcast-  
terprises

prings; Christian Chan-  
Mar Communications  
tated)

RANTED FOR NEW STATIONS  
oosa; Ch. 17 of Tuscal'a  
; North Star Communica-  
(Review Board decision)  
le; Golden Valley Com-  
tions

ide; Sunland Communica-  
Company (Initial dec'n)  
St. Louis; Minority

asters of East St. Louis  
port; Davenport Communi-  
ns Limited Partnership  
ruses; KASK Inc.

ao; Bocanerga/Girard Beg  
; Four Star Broad'g Co.  
rtes; Mount Baker Broad-  
ng, Inc.

## APPLICATIONS DISMISSED

AL Tuscaloosa; ch. 17; George E. Gunter; Local Majority Television.  
CA Clovis; ch. 43; San Joaquin TV Improvement Corporation  
CA Oroville; ch. 28; Gridley Community Television; Oroville Communications; Oroville TV; TV Tech Systems.  
CA Riverside; ch. 62; Pan Pacific Broadcasting, Inc.; Bethel Broadcasting; Channel 62 Limited Partnership; Ettinger Broadcasting Corporation; KIST Corporation; Riverside Family Television, Inc.; United American Telecasters, Inc.  
HI Kailua-Kona; ch. 6; Manulele Broadcasting.  
IL East St. Louis; ch. 46; East St. Louis 46 Broadcasters, Inc.; Mahogany Entertainment Television, Inc.; Spectrum Telecommunications Corporation.  
IA Davenport; ch. 18; Channel 18, Inc.; Eian, Inc.; H&S Ltd.; The Independence Broadcasting Corporation.  
MS Vicksburg; ch. 35; Frank Holifield, Jr.  
NM Las Cruces; ch. 48; Dona Ana County Television; Las Cruces Family Television, Ltd.  
PR Carolina; ch. 52; Radio Vida, Inc.  
TX Alvin; ch. 67; Community Television of Alvin; Patricia B. Steele; Texas Family Television, Ltd.  
UT Salt Lake City; ch. 14; Salt Lake Broadcasters, Inc.  
WA Anacortes; ch. 24; Roy M. Mayhugh; Sterling Associates, Ltd.; Vanwash Communications Group.

Note: In dealing with construction permit modification applications and grants, I have attempted to distinguish between stations already on the air and those still being constructed. I also give much more detailed information on changes to stations already on the air. As of this month, listings under "Applications to Modify Construction Permit" and "Construction Permit modifications granted" will be for new stations only. Changes in existing stations will be indicated as construction permit (CP), construction permit modification (CP MOD), or date effective (EFF mm/dd).

APPLICATIONS TO MODIFY CONSTRUCTION PERMIT  
4 4 -147 AK Anchorage; KTBY  
21 1054 2085 CO Colorado Springs; KXRM-TV  
59 2350 992 IN Indianapolis; WPDS-TV  
62 300 903 NC Fayetteville; WFCT (amending an earlier application)  
17 103 538 OK Bartlesville; KDOR  
30 3000 1415 TN Nashville; WCAY-TV

CONSTRUCTION PERMIT MODIFICATIONS GRANTED  
4 4 -147 AK Anchorage; KTBY  
46 2455 3044 CA Ontario; KBSA  
26 2250 1500 TX El Paso; KINT-TV  
49 2612 n.c. WA Vancouver-Portland(OR); KPDX

APPLICATIONS TO CHANGE EXISTING FACILITIES  
2 100 930 FL Miami-Fort Lauderdale; WPBT (directional antenna) CP MOD (modifying an earlier CP to change city of identification)  
39 4000 1421 TX Houston; KHTV; TL to 0.8 mi SE of Missouri City. CP MOD  
26 2500 1179 WI Green Bay; WLRE; TL to Shirley Road at Ridgeview Rd. CP MOD

FACILITIES CHANGES GRANTED BY THE FCC  
NC Charlotte; ch. 3; WBTV; ERP to 100 kw max/96.6 kw hor, circular polarization (from 100 kw ERP horizontal); 1873, AAT/1993' AG/2733' ASL (shorter tower, but on higher site); 783' higher AAT; 855' higher ASL; Coordinates 35°21'51"/81°11'18"; TL to Route 3, Bob Friday Road (6.21 miles NW of present site). Should be improved reception due to increase in antenna height. CP AZ Phoenix; ch. 8; KAET; ERP to 316 kw max/305 kw hor (from 316 kw ERP horizontal); 1756' AAT/346' AG/2989' ASL (159' higher); increase in antenna height should make an improvement. CP MOD  
NY Binghamton; ch. 34; WMGC-TV; ERP to 679.83 kw max/470.34 kw hor (from 204 kw ERP horizontal). Signal should improve. CP

## CALL LETTER APPLICATIONS: NEW STATIONS

CH C.L. STATE/CITY/APPLICANT  
35 WQAC FL Fort Walton Beach; Beacon Bc'l g  
4 KLBY KS Colby; KBCM (change)  
21 WBNA KY Louisville; Word Broadcasting  
60 WGOT NH Merrimack; Golden Triangle TV  
14 WXIV-TV NC Greenville; ACTS of Eastern N.C.  
15 KSUZ-TV TX Abilene; Helen Oman  
23 KIAB-TV TX Garland; International American  
16 KUEW-TV WA Everett; Unity Broadcasting Co.

CALL LETTER APPLICATIONS: STATIONS ON THE AIR  
13 WGME-TV ME Portland; WGAM-TV  
33 KRLD-TV TX Dallas; KNBN-TV

CALL LETTER GRANTS.: NEW STATIONS  
18 KDTU-TV AZ Tucson; KDTU (change)  
38 KMJD-TV AR Pine Bluff; Pine Bluff Broad'g  
40 WQQB KY Bowling Green; CMM, Inc.  
26 KXBJ MN Bemidji; John W. Bolier  
27 KWFT WA Wenatchee; Fred Alan Ross

CALL LETTER CHANGES: STATIONS ON THE AIR  
7 WDBJ VA Roanoke; WDBJ-TV

CHANGES IN CITY OF IDENTIFICATION APPLIED FOR  
FL Ocala; ch. 51; WBSP-TV; applied to identify as Ocala-Gainesville.

STATIONS ON THE AIR  
FL Ocala; ch. 51; WBSP; went on 11/1/83; 1500 kw max/1135 kw hor; 923' AAT/932' AG/1049' ASL; Coordinates 29°25'29"/82013'128"; TL County Road 5W near Orange Lake, 1 mile north of State Road 318; address: Big Sun Television, Inc., Box 24; Ocala, FL, 32670 Independent station.

IL Moline; ch. 24; WQPT-TV; 147.6 kw ERP; 319' AAT/336' AG/996' ASL; Coordinates 41928'30"/90°26'44"; TL 6600 34th Avenue, Moline; address: Black Hawk College, 6600 34th Avenue, Moline, IL, 61265. Educational station. (went on 11/2/83)  
NV Reno; ch. 5; KNBP; went on 9/29/83; 877 kw ERP; 2930' AAT/93' AG/9787' ASL; Coordi-

nates 39°18'48"/119°53'00"; TL Peak of Slide Mountain, Reno; address: Office of Communications & Broadcasting, University of Nevada, Reno, NV, 89557. Educational station.

## CONSOLIDATED HEARINGS

ID Caldwell; ch. 9; Cascade Broadcasting Group, Ltd.; Canyon Communications; Caldwell Television Associates, Ltd.  
IA Burlington; ch. 26; Burlington Broadcasting Company, Ltd.; Metro Program Network, Inc.  
IA Des Moines; ch. 69; Federal Television Company; Iowa Television Authority; Des Moines TV, Ltd.  
LA Alexandria; ch. 41; Haynes Communications Company; Cenia Broadcasting Group.  
MS Vicksburg; ch. 35; Vicksburg Broadcasting Group; Matthew D. Wiggins, Jr.; Action Communications (Vicksburg), Inc.  
NY Amsterdam; ch. 41; Henry C. McCall (originally American Cellular Systems, Inc.); G and M Broadcasting, Inc.  
SC Charleston; ch. 24; Charleston 24, Ltd.; South Jersey Radio, Inc.; Charleston Television Partners.

## CHANGES IN THE TABLE OF CHANNEL ASSIGNMENTS

AR El Dorado; delete 18z; add 43- (to avoid short spacing to applicants for channel 33 in Bossier City, Louisiana)  
CA San Luis Obispo; add 33z  
FL Tampa; add 50z  
KY Morehead; add 67z  
LA New Orleans; add 49z  
MN Minneapolis-St. Paul; add 45z  
NC Bryson City; change offset from 67- to 67z (because of Morehead, KY addition)  
NC Greenville; add 38z  
OK Norman; add 46-  
OK Oklahoma City; add 62+

CONSOLIDATED HEARING: CHARLOTTE, NORTH CAROLINA. Back in November, 1981, four television stations in Charlotte, North Carolina, applied to the FCC for a construction permit to relocate their transmitter towers, some of which also included changes in power. WSOO-TV channel 9 plans to move its tower site 25.7 miles northwest of its present site. WCCB-TV, ch. 18, plans to move 25 miles west of its present site. WCPO-TV, ch. 36 and WBTV, ch. 3 plan to share the same tower, which is 29 miles northwest of WCPO-TV but only 6 miles north of WBTV. The three proposed sites are within two miles of each other. Each of stations expects to gain between 700,000 and 900,000 new viewers, and, except for WBTV, to lose 30,000 to 90,000 present viewers. WBTV, because of its proposed power increase, will not lose any of its coverage area.

Opposing the proposed changes are WSPA-TV, ch. 7 in Spartanburg, South Carolina, WHNS, ch. 21 in Asheville, North Carolina, WKPT-TV, ch. 19 in Kingsport, Tennessee, and KCBA, channel 35 in Salinas, California. (KCBA has been carrying a grudge against Westinghouse, owner of WCPO-TV) Those opposed to the proposed changes contend that it would widen the Charlotte ADI (Area of Dominant Influence) into the Greenville-Asheville-Spartanburg ADI and thus cause lost revenues to the

JANUARY, 1984

stations in that area. But the FCC states that the economic well-being of a television station is not a matter of public interest unless the existence of a station is put in jeopardy. The opposing stations could not prove this to be the case, so the FCC has disregarded that issue. Another issue is the fact that a large number of people will lose service from three stations, two of which supply network programming (ABC and NBC). It is this issue that the FCC feels needs to be investigated, and has placed the applications of WPCO-TV, WSOC-TV, and WCCB-TV in a consolidated hearing. Because no loss of coverage area or population is affected by the WBTV change, the FCC has decided to grant that station a construction permit.

**CLOVIS, CALIFORNIA: FCC REVIEW BOARD DECISION**

This city's channel 43 assignment had been fought for by San Joaquin Television Investment Corporation and North Star Communications. San Joaquin had the advantage of having 18% minority ownership, whereas North Star had none. San Joaquin's minorities would also be involved in the station's operation, another factor favored by the FCC in deciding between competing applicants. North Star, in order to diminish the preference toward San Joaquin, proposed a greater integration of ownership into management and greater diversification in programming, as well as responsiveness to the Hispanic community and proposed use of a minority advisory committee. According to a Court of Appeals decision in 1973, nonminorities were not foreclosed from seeking similar or greater merit that a minority applicant for being responsive to the needs of minorities.

**FCC RULING: ADDITIONAL CITY IDENTIFICATION**

Under Section 73.1201(b)(2) of the FCC's rules a licensee must identify itself with its community of license. If it wishes to mention other communities in its official identification, it must request such authorization from the FCC, and must certify that those additional cities are within its city grade contour.

On July 1, 1982, the FCC adopted a Notice of Proposed Rule Making, in which two alternative changes were proposed. The first alternative was to retain the city grade coverage requirement, but licensees merely had to certify to that coverage without having to apply to the FCC for approval. The second option would be to eliminate both the application procedure and the coverage requirement, allowing stations to identify by their community of license first, followed by any other communities they select, irrespective of their signal coverage.

After listening to comments filed by several broadcasters the FCC decided to go with the second option. Several reasons were given for this decision.(1) There is no need for the existing restriction. It was intended to protect advertisers from being misled as to the station's coverage, but today advertisers depend on sophisticated market survey data to determine the extent as well as composition of a station's market area

instead of taking the station's word for its coverage area. (2) Elimination of this requirement will cause no harm to the public. Common sense will prevent stations from including communities which they do not serve or have any connection with in their identification. And those not served by the station would not be misled by such an identification. (3) The current rule unnecessarily interferes with market forces, possibly skewing competitive relationships to the detriment of the public. Many stations, for example, provide service to communities beyond their principal-city coverage contour and often generate significant advertising revenues in these areas. Yet under current restraints, these stations cannot reflect this marketplace relationship in their official station identification. WOAY(AM) in Oak Hill had requested the inclusion of Beckley, West Virginia in its identification, but was denied because its city grade contour, while covering the business area of Beckley, did not cover the entire city. Yet half its advertising revenues comes from Beckley. An appeals court affirmed the FCC's denial, but questioned the soundness of the FCC's reasoning. (4) The existing rule imposes burdens on the FCC and the licensees in the application process, especially when one application is contested by a station in the additional city to be identified.

The ruling in question was deleted, effective December 8, 1983. (Ref: Federal Register, November 8, 1983, pp. 51304-51308)

**FORUM**

You may notice that I don't have any background material on any new stations this month. That's because none of the stations listed in the previous three months, all of which I requested information, ever replied. Usually I get something from about half.

KTXH-TV, channel 20 in Houston, Texas, was in the news again. It seems that somebody was picking up Skip from the channel 20 tower. That's right! Skip! Channel 20! Who?? The Houston police department, that's who! It seems that Skip Stanley climbed up to the top of the 2,400 foot high tower and parachuted to the ground. The owners of the tower said that they will be filing charges against him.

George Mileon reports that WNDS, channel 50 in Derry is still weak, and still claiming to be operating at full power. He says that somebody in Danvers, MA, a few miles away from him, can't even get the station in. That might be because his antenna is pointed SW toward Boston while WNDS is to the NW. The same situation happened here, when WWAC-TV was on in Atlantic City. Everybody in Bridgeton had their antennas turned north, while WWAC-TV was to the east. Nobody else in Bridgeton could get it in. George also wanted me to print the address of the MDS Data Book. I wish I could, but I don't have it. I'm still looking for it, as well as the price. If anybody comes across some information on it, please let me know.

Ronald Purdue says that the Leave It To Beaver Marathon on KXLI, ch. 41 in St. Cloud,

JANUARY, 1984

Minnesota, made the station lose money. It seems that not too many people are watching that station.

Mike Reid made a few suggestions for the upcoming Translator Guide: Listing the ERP for each translator, list the station relayed by the translator if not the primary station. (Translators can also pick up microwave relays, satellites, and other translators.) He also asked about Canadian translators. I will include what I can, but the Canadian will not be as accurate, complete, and detailed as the American stations in the list. I plan to list all translators in the 48 contiguous states, but I wonder if the hundreds of translators and low power stations in Alaska are worth the cost. I'm open for comments and suggestions on the list. Mike also raised a few questions about translators. While many of them can pick up a channel adjacent to their intended pickup channel and rebroadcast it on the channel adjacent to their licensed channel, has any translator ever rebroadcast a second adjacent station? I haven't seen any myself, and in the cases where the first adjacent channel is being rebroadcast, it isn't usually the entire channel. For example, W25AA in Grafton will rebroadcast channel 15 on 23, and sometimes will also rebroadcast the video of 16 (WBBC-TV) on 26. The audio is usually too far from the assigned frequency. W41AC will rebroadcast channel 10 on 41, and sometimes rebroadcasts the audio of channel 9, with some distorted video, on channel 40, while at the same time rebroadcast the video of channel 11 on 42. You can often see a translator rebroadcast anything up to 3 MHz away from its intended channel. Again another opportunity for comments here: has anybody seen a translator rebroadcast more than 6 MHz beyond its assigned channel? Mike says that CBEFT, ch. 54 in Windsor, rebroadcasts CBLFT-10, ch. 48 in Chatham, but sometimes can pick up a station on channel 49 (like WEAO in Akron) and rebroadcast it on channel 55. One more note from Mike: Channel 3 in Timmins, Ontario is CITO-TV, not CITO-TV-2 as was mistakenly recorded in a CRTC decision to renew its license.

Bill Draeb reports that the WLUC translator in Iron Mountain, Michigan, which moved from channel 8 to 55, seems to be back on channel 8, with no trace of it on channel 55. K47AF, the Iron Mountain translator which had been scrambling "The Movie Channel," is now rebroadcasting WAOW-TV, ch. 9 in Wausau, WI. WLRE, ch. 26 in Green Bay, is coming in stronger; Bill suspects they are now using their new tower, which is now completed, with their increased 2844.5 kw ERP.

An article in the 11/83 New Jersey Reporter mentioned the fact that NJPTV is carrying Uncle Floyd and old episodes of Dark Shadows. According to the article, NJPTV has had very little appeal among the young adults of New Jersey. It has plenty of programs for children, teens, and older people. By scheduling these two programs, they hope to attract this age group. Uncle

Floyd mentions at the end of the program that the manager of NJPTV will drop him if he doesn't bring in enough contributions. He is offering Uncle Floyd bumper stickers and records.

**CANADIAN NOTES FROM WALTER PATTON  
NEW TRANSMITTER AUTHORIZED**

Powell River/Comox, BC; ch. 22; 3.445 kw; to rebroadcast CBUFT, ch. 26 in Vancouver; SRC (CBC French).

**OFF THE AIR**

- CHLG-TV-5, ch. 5, Camp Duperlater, Quebec
- CFER-TV-1, ch. 11, Sept Iles, Quebec
- POWER CHANGES GRANTED
- CIMT-TV-1, ch. 4, Edmundston, New Brunswick, increase from 1.22 kw to 1.28 kw.
- CBC-TV, ch. 5 in Hearst, Ontario, decrease from 8.371 kw to 5.319 kw with directional antenna.

**CHANGE IN PRIMARY STATION**

• CBQAT-12, ch. 7 in Baie Comeau, Quebec, now rebroadcasting CBST, ch. 13 in Sept Iles instead of CBUAT, ch. 6 in Matane, Quebec.

**NEW CALL LETTERS**

CBKGT; ch. 45, Gravelbourg, Saskatchewan.  
CBKST-8; ch. 13; Southend, Saskatchewan.  
CIVG-TV; ch. 9; Sept Iles, Quebec.

**CALL LETTER CHANGES**

CBNT-39; ch. 4; Trepassey, Nfld (CJTA-TV-2)  
CBHT-11; ch. 12; Mulgrave, N.S. (CBIT-1)  
CIVA-TV-1; ch. 8; Rouyn/Noranda, Quebec (CIVN-TV)

**APPLICATIONS FOR NEW TRANSMITTERS**

CH ERP LOCATION

34 4379 Brantford, Ontario (CITY, ch. 57)
64 4,973 St. Thomas, Ontario (CITY, ch. 57)
44 4,832 Stratford, Ontario (CITY, ch. 57)
31 8,831 Woodstock, Ontario (CITY, ch. 57)

**APPLICATIONS FOR POWER CHANGES**

- CBGAT-8; ch. 13; Conche, Nfld; 0.144 kw to 0.296 kw; change from ch. 13 to ch. 12.
- CBMT; ch. 28; Baie Comeau, Que; 3.5 kw to 4.2 kw.
- CBGAT; ch. 6; Matane, Que; 3.28 kw to 3.7 kw.
- CBGAT-10; ch. 19; Hone Louis En Haut, Que; 3.35 kw to 5.15 kw.
- CBGAT-2; ch. 10; Murdochville, Que; 1.6 kw to 1.53 kw.

One more note from Walter: "WDIV (4) Detroit NBC has been added to the satellite signals available from CANCOM. The Detroit and Seattle stations so available are rapidly becoming Canadian 'Super-Stations'."

**MORE FORUM**

Rich Turcsany's letter was put into another part of my files because of its listings of early UHF stations, and I almost forgot to include the current information also contained in the letter. The FCC approved the distress sale of WHCT, ch. 18 in Hartford, which will come under the control of Interstate Media, Inc. IM plans to move the transmitter site to Middletown and increase the ERP to 5000 kw. WLCT, ch. 26 in New London, CT, hopes to be on the air by early 1984. WSMW, ch. 27 in Worcester, MA, has been sold to a local group

JANUARY, 1984

and its PREVIEW STV service is going to shut down in Boston and will be sold to a Dallas STV firm. Wometco Enterprises may sell its television stations (WWHT, ch. 68 and WSNL, ch. 67) because of management problems following the death of its founder, Mitchell Wolfson; this could mean the end of WHT and a greater diversity of programming in the New York area. WBCT, ch. 43 in Bridgeport, CT and WLIC, ch. 55 in Riverhead, NY, may go on the air in January. Still no sign of WTUV, ch. 59 in New Haven. WFAG, ch. 28 in New Bedford, MA, is also supposed to go on the air in January. WSTG, ch. 64 in Providence, RI, airs absolutely no commercials or Public Service announcements: only three hours during the day of Three Stooges cartoons and old movies. It is listed in the Providence Journal.

**RETROSPECT: 1938 AND BEFORE**

Several months ago I mentioned the DX night of June 5, 1938. While that date was significant to the discovery of Sporadic-E propagation and tropospheric bending in the 56-60 MHz band, it was definitely not the first time for DX in that band. In the January, 1952 issue of Radio Electronics the following quotation appears in an article written by Edward P. Tilton:

"One June day back in the early 1930's, hams working the 5-meter band in the cities of the Eastern Seaboard were amazed to hear interfering signals from midwestern stations breaking through. The frequency band used was 56 to 60 mc, now the upper two-thirds of TV channel 2. Amateurs had been developing interest in this band for several years. There had been scattered reports of 1,000-mile dx as far back as 1926, but few workers placed much faith in them. After all, didn't the best authorities in the propagation field state that there could be no ionospheric reflection on frequencies higher than about 30 mc or so?

"Many, including myself, felt that they were being tricked, and were a bit reticent about discussing their experiences, for fear of being laughed down if they showed any signs of 'falling for it.' But as they began to compare notes, principally through the reports published in the magazine QST, it became apparent that dx on '5' was an accomplished fact.

"What a tantalizing will-of-the-wisp it was! Appearing out of nowhere, the dx stations would boom in for a few minutes and then, with a precipitate fade quite unlike anything in previous dx experience, drop out again, perhaps to be replaced by signals from another section of the country in a matter of minutes. What manner of dx was this? After nearly 20 years of observation and study we still don't have all the answers, but we have learned quite a bit. Detailed observation by amateurs and TV dx enthusiasts has been very useful in formulating some rules and predictions.

"It is now generally accepted that this reflection back to earth of signals that otherwise would dissipate into space is the

result of patches of dense ionization in the E-layer region of the ionosphere, some 50 miles above the earth's surface. We know that there are two definite times when such dx is most likely to occur: one period from May through July, and the other period around the end of the year. We also know that despite this well-defined pattern, TV dx can take place at any season. We observe a general diurnal pattern, which peaks in the early morning and early evening hours, but it does not always work that way. The usual dx range is between 600 and 1,200 miles, but signals have been received as close as 300 miles—the maximum dx is largely a matter of conjecture. We have evidence that sporadic-E dx is associated with solar phenomena, but attempts at direct correlation with sunspot observations have been largely unsuccessful."

But let's go back to 1938 for a moment. A total of 692 DX contacts by amateur radio operators in the 5 meter band, covering distances of 200 miles or greater, were reported to the American Radio Relay League from the night of June 5, 1938. But unfortunately, the time of contact was not included in those reports. At the request of Harvard University, the ARRL supplied the list of contacts for further study.

J.A. Pierce and H.R. Mimno of the Crutft Laboratory at Harvard rounded the logging distances to the nearest 50-mile multiple and plotted a graph of distances related to number of contacts. The graph showed 13 contacts at 200 miles, and dipping down to only three contacts at 250 miles. But from that point the number of contacts per distance increased to 99 contacts at 650 miles. As distances grew farther the number of contacts decreased until there were only eleven contacts at 1,050 miles. But then there was a jump to 22 contacts at 1,100 miles, then a gradual decrease to four reports at 1,300 miles. The second peak was attributed to uneven population distribution. In the eastern states there are more stations at shorter distances, thus more shorter skip loggings. The more distant peak was the result of stations west of the Mississippi river, where there are fewer stations at shorter distances, and most loggings were to the eastern states, about a thousand miles or more distant.

It was on that date that abnormally strong E layer ionization was observed over Cambridge, Massachusetts, at about 75 miles above the surface. By noting that the greatest distance logged was 1,400 miles, the scientists were able to relate the reflections to the E layer. From the skip distances and the point of reflection and height of reflection, they were able to calculate ion densities at the midpoints of each DX contact, and plot them on a map. While the band was open for nearly the whole day, the map showed where ionization was at its strongest. There was an area of high intensity over Cleveland and over the southern half of Pennsylvania which was responsible for the east coast loggings which peaked

at 600 miles. Another intense area stretched over eastern Illinois down to the northwestern corner of Tennessee, with the greatest intensity over Peoria. This was responsible for the increase in the number of loggings over 1,000 miles.

Transmissions received over distances less than 300 miles didn't seem to fit the E layer reflection concept, so they were put together and studied separately. That's when they found that they all occurred in a small region around Pennsylvania and New York, and parts of adjoining states. These shorter DX loggings were attributed to atmospheric refraction.

Let's proceed to 1953 now, where a few more surprises were to pop up. Edward P. Tilton, who wrote the article mentioned earlier, "TV DX in 1951," in the 1/52 Radio-Electronics, also wrote "TV DX in 1953," which appeared in the 1/54 issue of Radio-Electronics. In that article we read, "Nearly all the dx reports, v.h.f. and u.h.f., can be classified according to well-established patterns. But every so often an observer comes up with a report that cannot be explained by any of the known theories. Such is the reception of KLAC-13, Los Angeles by Phil Rader, Indianapolis, July 2. This far exceeds the amateur 144-mc record of 1,400 miles, and its three times the best that has been done on 220 mc. Assuming that it's not a case of mistaken identification, how did it happen?" Phil also reports reception of PRF-3, Sao Paulo, Brazil, July 8.

"(Robert B.) Cooper calls our attention to a report that appeared in Broadcasting regarding the reception of WKY-4, Oklahoma City, in England. The same publication also reported KTNT-11, by a viewer in McAllen, Texas. No details—but what dx, if true!

"And here's the real killer. John Shipley, chief engineer of WKBN, New Britain, Conn., called the writer one afternoon last summer to pass along information on reported reception of their new channel-30 rig by a viewer in Ames, Iowa. The correspondent reproduced the WKBN test pattern accurately, and correctly identified the pitch of the tone that accompanied it. This neat 1,100-mile trick was turned shortly after noon on July 11. Can anyone explain it? We have a few things to learn, yet!"

Thirty years later, we can look back at these reports and explain them: F2 skip to England, transequatorial ducting of the E layer to Brazil, and tropospheric ducting from Connecticut to Iowa. But we still don't have all the answers. Sporadic-E ionization has been known for 4½ years now, but we still aren't exactly sure what triggers it.

Thanks to John Ebeling for sending me the two articles referred to from the Radio-Electronics magazine.

David Moody had sent me a few articles a few months ago that appeared in Broadcast Engineering magazine, relating to television engineering.

One article mentions WNDU-TV, channel 16 in

South Bend, Indiana, owned by the University of Notre Dame. The station uses 6900 feet of fiber optics cable instead of conventional coaxial cable to link its new studio with the university's sports facilities and Center for Continuing Education. The fiber optic cable uses light pulses instead of electrical signals, and can relay high-quality pictures and audio. Another 5703 feet of cable connect the football stadium. The coaxial cable used with the old studio required equalizers and amplifiers, resulting in degradation of the signal. Fiber optics is also easier to install, has better video and audio quality, virtually no noise interference, has a high bandwidth, is smaller, stronger, more flexible, and has other advantages.

Another article deals with a tower under construction in Abuja, Nigeria. This tower will hold four VHF transmitters, eight UHF transmitters, four FM transmitters, and will have the capacity to hold four more FM transmitters. The tower will also have extensive microwave installations. There will also be a restaurant, observation gallery, and banquet area. This tower is intended to stand as a national monument, and will be the third highest structure in the world. The highest tower is the CN tower in Toronto.

A third article describes the construction of the Mount Sutro tower in San Francisco, which was constructed eleven years ago. This tower is 977 feet tall, only a few feet shorter than the Eiffel Tower in Paris. It was designed to withstand an earthquake of 8.3 on the Richter scale. It contains more than 25,000 feet of transmission line, all copper coaxial cable. Back in the early fifties there were several sites around the San Francisco area where stations were transmitting. Eventually they settled to two areas: Mount San Bruno, 3½ miles south of San Francisco, and Mount Sutro. KGO-TV, ch. 7, made plans to construct the huge tower on Mount Sutro, while KRON-TV, channel 4, made similar plans to build one on Mount San Bruno. The idea was to have all the transmitters in one area. Because Mount San Bruno was too close to the San Francisco International Airport it could not get FAA approval, and all the stations decided then to work together on one tower at Mount Sutro. Construction began in February, 1971, and was completed in July, 1973.

A fourth article makes mention of television in the People's Republic of China. "Every city of any size in China now has at least one transmitter carrying the national program, on channel 2 when possible. Also, there are many relay transmitters and translators, so that a TV signal of some kind is available to much of China."



# EASTERN TV-DX

William J. Draeb  
Ellis St. R.R.#2  
Keweenaw, WI  
54216

January 1984

W.P. Townsend: 4500 Connecticut Ave. NW #901, Washington, DC 20008 EST

August 1983

October 1983

November 1983

31 Tr 0055 WTVZ-33 VA 3 Tr 2300 WNJS-23 NJ 22 Tr 0658 WBOC-16 MD 0725 WCPB-28 MD 0726 WAAT-40 NJ 0727 WMDT-47 MD One of the best openings to the east this season, which is unusual for so late in the Fall. WBOC-16 is seen consistently. Maybe WBOC will be seen in DC most of the Winter. This is a bellweather station for TV-DX, just as WQHQ 104.7 is for FM.

Robert Goodman: 2030 Herring Ave., Bronx, NY 10461 EST-EDT?

By Es I had WEDU-3 FL again on 6/15/83 from 1830 to 1935 (1050mi.). Fog associated trope on 11/10/83 brought the following: 0615 WDCA-20 DC 210 mi. 0650 WJZ-13 MD 180 mi. Some Es the night of 11/14/83 (muf to ch.2, no I.D.), that's all to report.

George Rogers: 320 Lafayette Rd., Chickamauga, GA 30707 EST

October 1983

November 1983

November 1983

25 Tr 1945 WKSO-29 KY 160 6 Tr 1043 WKZT-23 KY 275 17 Tr 0835 WHIQ-25 AL 105 2015 WGRB-34 KY 215 1045 WKEF-22 OH 426 19 Tr 0838 WANX-46 GA 113 28 Tr 0812 WHMA-40 AL 110 1048 WGRB-34 KY 215 0840 WETV-30 GA " 0815 WATL-36 GA 115 1850 WBIR-10 TN 111 0842 WTTO-21 AL 145 0820 WTVK-26 TN 111 9 Es 2230 KSNC-2 KS 800 0848 WEMG-42 AL " 2320 WTO-21 AL 145 12 Es 1645 WTVJ-4 FL 665 0852 WHMA-40 AL 105 2325 WEMG-42 AL " 1700 WPT-2 FL " 20 Es 1310 KOB-4 NM 1150 31 Es 1832 KLNE-3 NE 980 1720 TR-4 Cuba 900 1340 KSAF-2 NM 1140 1833 KSNB-4 NE 950 1730 TR-2 " " 22 Tr 0805 WWSB-27 MS 270 1840 KNOP-2 NE 1000 1745 TR-5 " " 0810 WTTO-21 AL 145 13 Es 2015 KGAN-2 IA 590 2025 KTCA-2 MN 800 0818 WVTM-13 AL " 2130 KSAF-2 NM 1140 0820 WOWL-15 AL 177 0822 WSLA-8 AL 225 0825 WKRG-5 AL 385 14 Es Santa Fe 0830 WDIQ-2 AL 305 1635 WHEQ-13 TN " 1605 KSAF-2 NM 1140 0834 WLTZ-38 GA 224 1705 WOUL-15 AL 177 1650 KSNC-2 KS 800 0836 WCVO-20 AL 213 1745 KAIF-8 AR 335 1700 KWGN-2 CO 1050 0847 WBBJ-7 TN 260 1748 WPTY-24 TN 322 1710 KNOP-2 NE 1000 0915 WKRG-34 KY 215 1830 WKKO-10 TN " 1715 KCNC-4 CO 1050 (was KOA) 0950 WJSP-28 GA 208 1910 KATV-7 AR 459 1738 KENW-3 NM 950 0952 WZTV-17 TN 129 2032 WGXA-24 GA 198 1740 KOB-4 NM 1150 1015 WBLQ-10 AL 145 2035 WWSB-27 MS 270 1742 KAMR-4 TX 940 1027 WKMU-21 KY 250 2036 WVEU-69 GA 113 1745 KTXP-5 TX 980 1032 WCFI-33 AL 203 2037 WVTM-13 AL 145 1750 KMID-2 TX 950 1038 WIHQ-41 AL 240 2040 WETV-30 GA 113 1755 XEPM-2 CH 1100 1045 WEMG-42 AL 145 2140 WJSP-28 GA 208 1805 KAVE-6 NM 1000 1105 WKAB-32 AL 213 2220 WLTZ-38 GA 224 15 Es 1000 KNDX-2 ND 1250 1003 KXJB-4 ND 1005 Equipment: Zenith 12" portable Model No. ET 120Y. 1019 KGFE-2 ND 1025 17 Tr 0810 WJSP-28 GA 208 0811 WATL-36 GA 113

November 1983

+ Tr 1515 WZTV-17 TN 129

1632 WMC-5 TN 322

1635 WHEQ-13 TN "

1705 WOUL-15 AL 177

1745 KAIF-8 AR 335

1748 WPTY-24 TN 322

1830 WKKO-10 TN "

1910 KATV-7 AR 459

2032 WGXA-24 GA 198

2035 WWSB-27 MS 270

2036 WVEU-69 GA 113

2037 WVTM-13 AL 145

2040 WETV-30 GA 113

2042 WEMG-42 AL 145

2140 WJSP-28 GA 208

6 Tr 0905 WWSB-27 MS 270

0910 WEMG-42 AL 145

0920 WTVK-26 TN 111

0940 WTO-21 AL 145

TV-DX down here had been good. I had four days in a row with Es this month. I had just renewed to WIFDA for another year of DX fun. I wish every WIFDA member a very happy DX-ful New Year and be on the lookout for Es during the New Years' bowl games. Thank you.

During the past few months, Bill Fahber and I have been working on the new TV Station Guide. With a little luck, all the data should be updated and ready for printing some time next spring. If any of you out there have some info on the new stations that have been coming on lately, (such as network affiliation, etc.) or something new about older stations that are already on, would you please let us know about it. We're going to try to make the new station guide as accurate as possible but we may need your help to do so. Thanks.-wd

## C.C.I. [UNIDENTIFIED DX]

Robert Grant, KD8EN  
5775 Bishop  
Detroit, MI 48224.  
January, 1984.

TV unIDs:

Jim Pizzi, P.O. Box 1778, Lovington, NM 88260.  
1983: Fri 21 Oct Es ch 4 0910 EDT-- "Shell Game" (PTA: E) (This is one of the games of "The Price Is Right" on CBS at that time. -RG)  
Sat 22 Oct M5 ch 2 0002 EDT-- Wrestling (Antenna NEEast.)  
Sun 23 Oct Tr ch 20 0013 EDT-- xltr w/ KETA-13,OKC, then KUPK-13 Garden City, KS then at 0024 KLBK-13, Lubbock, TX. (PTA: TX Panhandle, OK.)  
" " " " ch 18 0103 EDT-- 3/4 CBP. (PTA: East TX, South OK. suspect K18AL, Sulphur Springs, TX.)  
Thu 27 Oct M5 ch 2 2353 EDT-- mention Highway 77 (PTA: NEEast.)  
Sat 29 Oct M5 ch 2 0116 EDT-- Paul Harvey (PTA: NEEast.)  
Wed 2 Nov Es ch 2 1959 MST-- "Action nx Update" w/ Maggie Jensen, CBS net (PTA: NEEast.)  
Thu 3 Nov Es ch 2 0036 MST-- movie: "List Of Adrian Messenger", Air Canada Cargo ad.  
Sat 12 Nov Tr ch 58 0128 MST-- xltr of KSWS-8, Roswell, NM. (PTA: E-Central NM.)  
" " " " ch 44 0129 MST-- xltr of KOKH-25, Oklahoma City, OK. (PTA: TX, OK.)  
" " " " ch 68 0137 MST-- xltr of KSWS-8, Roswell, NM. (PTA: E-Central NM.)  
Mon 14 Nov Es ch 4 1509 MST-- "Little House" (PTA: SC,TN,WV.)  
" " " " ch 6 1547 MST-- "M\*A\*S\*H" (PTA: NC,TN,GA,WV.)  
Tue 15 Nov M5 ch 2 2215 MST-- "Making Of A Continent" (PBS) a day late. (Ant: NEEast.)  
" " " " ch 2 2228 MST-- "Entertainment Tonight"  
Sat 19 Nov M5 ch 2 2319 MST-- movie promo for 22 Nov: "It's a Mad, Mad, Mad, Mad World."  
Sun 20 Nov Es ch 2 1102 MST-- "Firing Line" (PBS) (PTA: TN,NC.)  
Mon 21 Nov Tr ch 15 2220 MST-- "Thicke Of The Night" (PTA: E.)

FM unIDs:

Jim Pizzi, P.O. Box 1778, Lovington, NM 88260.  
1983: Mon 14 Nov Es 92.5 1547 MST-- gospel. (PTA: KY,MS,NC.)  
" " " " 97.9 1600 MST-- "Carolina's Hottest FM".  
" " " " 99.7 1605 MST-- "Z-100", r.  
" " " " 106.7 1655 MST-- remote Bcast from Sears store. (PTA: SE'n US.)  
" " " " 96.5 1704 MST-- ad: "Jefferson Ward Store"  
Fri 18 Nov M5 92.3 2025 MST-- g (WYCA only g on 92.3 per FM ATLAS, any others?) (PTA: NEast.)

FM IDs:

Saul Chernos:  
1983: Sat 23 Jul Es 90.7 1300 EDT-- d mx, "AM-1480" mentioned. (Dave Nieman IDed this as WKGC, Panama City, FL. (the AM 1480 is listed in 14th Vane Jones NARTVSG as WGN. I Don't know whether WGN-FM sold the AM to WKGC or simply donated it. -RG)  
1983: Sun 21 Aug Tr 100.9 1855 EDT-- SS (FM ATLAS lists WMEX in Clyde, OH as SS. If that is the case that is a definite catch but I would like to hear from other DXers because I find it hard to imagine this station, nowhere near a metro area, Broadcasting in Spanish. -RG)

Steve West:

1983: Sun 24 Jul Es 98.5 2115 EDT-- SS male ancr. Followed by 3 SS vocal songs. (FM ATLAS lists KQXX, McAllen, TX as Spanish country, which would seem to fit the bill. -RG.)

Jim Pizzi sent me a NM TV Guide which includes the debut of KSAF-2, an Albuquerque VHF Independent with Santa Fe as its city of license. Seeing their sked I expect them to crush the ratings of KGSW-14 & KNAT-23. Be careful when Esing to this part of the country. Their logo looks identical to that of KWGN-2, Denver, also independent. According to the table of assignments KSAF should be a plus offset station, as opposed to KWGN's zero offset. WJBK's 2 is like this too, but always surrounded by "Detr it" with the "2" used in place of the "o": Detr2it. WJBK is plus and thus # beat to KSAF. 73 & gud DX in 1984.

THIS WEEK DISCOVER  
A WHOLE NEW NUMBER  
ON YOUR TV DIAL.



# WESTERN TV-DX

January 1984

Super tropo in New Mexico, more loggings reported from the Texas - midwest tropo of October 23, 24 (this time in Macomb, Illinois), slow DX in Madison, double hop E skip in Okinawa, and nothing in North Dakota is the TVDX story this month. I hope 1984 is off to a good start for everyone.

New New Mode Tent. - t Unidentified - unid S/On - + S/Off - =  
ID Color Bars - e Unid Color Bars - s IHTP - f Misc. Test Patterns - &

Jeff Kadet, Box 20, Macomb, IL 61455

CLT?

Equipment: Zenith N1310, Antennacraft 10 element hi-band yagi up 15', Channel Master Diamond Quantum up 30' with EU-4S preamplifier and RG-11 cable.

<b>October 1983</b>	24 Tr 2254 Other unids-ssw, chs 16,21,26,27. freq by about 5 kHz.)	5 Tr	freq by about 5 kHz.)
9 Tr 0050 WLKY 32 KY 300	27 Tr 0900 Good UHF opening to AR & KY, but had to leave.	0538 WXIX 19 OH 330	8 Tr 0105 K11PF 11 TX 201
2100 KPOB 15 MO 265		0730 WGRB 34 KY 315	0139 #KTBC 7 TX 377
2300 =KTEJ 19 AR 325		0755 &WIPB 49 IN 270	0140 #K42AG 42 OK 300
10 Tr 0714 WRPD 29 KY 260		0812 WCET 48 OH 330	(Strong City KFDA-10)
0810 WKMU 21 KY 300		Also unids on 22 30, 39 to east.	0142 #K51## 51 ??
WKGB 53 KY 325		Fort Wayne?	(Unknown KFDA-10)
0845 KGCT 41 OK 415		4 Tr Good opening in the evening with mcst IA, Topeka, Omaha, and Mpls.	8 Tr 0145 K44## 44 (LPTV STV - SelecTV)
2210 WFYI 20 IN (U/o WICS - east WHMB-40 strong)		6 Tr 0540 WDRB 41 KY 300	0147 KSHBT 41 MO
24 Tr 2145 KOKI 23 OK 415 (In color. Ch 41 also with STV.)		0555 KWZTVt 17 TN	0215 KHTV 39 TX 515
2227 KXTX 39 TX 540 (CCI same head- ing. Houston?)	5 Tr 0529 WFFT 55 IN 280 (This was unid CCI on 9-30. Either they or WRSP are off	0558 WAAY 31 AL 455	0234 #KWTW 9 OK 380
2254 KNBN 33 TX 640		0628 +WAFF 48 AL 455	0235 KOKH 25 OK 380

**November 1983**

1 Tr 1739 WSIU 8 IL 210	6 Tr 0540 WDRB 41 KY 300
4 Tr Good opening in the evening with mcst IA, Topeka, Omaha, and Mpls.	0555 KWZTVt 17 TN
5 Tr 0529 WFFT 55 IN 280 (This was unid CCI on 9-30. Either they or WRSP are off	0558 WAAY 31 AL 455
	0628 +WAFF 48 AL 455
	Also strong OKHz
	CCI-WRAU. Prob. WHNT.
	0655 WKPC 15 KY 300
	0710 WBTIt 64 OH

Was surprised to get Texas and Alabama because neither has been heard on FM tropo yet. The CE at KNBN, Gene Petersen, used to be a BCB DX'er. He says that KTXA-21 and KTWS-27 are independents with STV at night. KTXA-39 was in solidly with a WWII movie for about 40 minutes and KNBN, which is in a straight line with Macomb and KSPR, drifted over KSPR a few times.

Does anybody know the QTH of XETU-2 which was seen in July over/under XEPM? I have a clearly legible picture of it's ID slide, but I can't find it ever being reported in the VUD. 73.

(Very nice loggings. I am glad to see that you, too, caught that fine tropo opening of October 23, 24. fm)

Jim Pizzi, P.O. Box 1778, Lovington, NM 88260 (505)-396-3251

MST

Equipment: Panasonic 12" b&w, Sony 8" b&w, Panasonic 13" color, Motorola 19" color, Fincos P-7 with EU-4S at 70', CM 6' with EU-4S at 35', Winegard 2073 (channels 7-13) with AC-9730 preamplifier at 75', Winegard 2026 (channels 2-6) with AC-9260 preamplifier at 30', plus other antennas.

\* DX received on Motorola R-220 receiver (audio) # CBS Nightwatch

<b>November 1983</b>	2 Tr 1845 KPOMT 24 AR	2 Es 2210 KRON 4 CA 1116	14 Es 1500 WSJK 2 TN 1070	14 Es 1531 WYFF 4 NC 1206	14 Es 1623 unid ch 7, WITF?
2 Tr 0929 KSAF 2 NM 264 (Heavy 0 kHz to KMID)	1847 KLRIt 16 AR	2215 KPIX 5 CA 1116	1502 WRCBt 3 TN	1534 WCYB 5 TN 1224	1640 unid ch 7, WJHG?
1645 K19AA 19 OK 252 (Altus KWET-12)	MS 1905 unid ch 23 ne	LS 2220 KNAT 23 NM 240	1509 unid ch 4 east	1547 unid channel 6 e	1718 WESH 2 FL 1346
1814 Exc OKC 14,25,43	Micro burst - 10 kHz offset - KOKI	Es 2222 KVIE 6 CA 1071	unid ch 5 east	1558 WRAL 5 NC 1413	(Es gone - 1750)
1826 Exc Tulsa 23, 41	Es 1923 WBBMt 2 IL	KCRA 3 CA 1071	1515 WFMY 2 NC 1350	1605 WSB 2 GA 1098	1808 unid ch 2 Mexico
1837 KWET 12 OK 275	1934 unid channel 2	(Es gone by 2345 with KTUV the last to go.)	1525 WBTV 3 NC 1206	1616 WWAY 3 NC 1463	1810 unid ch 3 Mexico
	2207 KTVU 2 CA 1116		1530 WRCB 3 TN 1035	1622 WCTV 6 GA 1148	(Es gone - 1830)

A strange day with four different modes of DX. Es in November?? Well, I'm not complaining - but with such a poor Es season up north this year, I'm beginning to feel guilty

## Western TV DX

January 1984

Jim Pizzi (continued)

with all this Es at this QTH. I saw my third UHF MS - very quick, but strong. KSAF went on at 1800 MST on October 30, 1983.

3 Es 0036 unid ch 2 Canada (Es gone - 0047)	3 MS 0121 #KJRH 2 OK 473	3 Es 0218 &unid ch 3 north (Es gone - 0228)
3 MS 0103 WTWO 2 IN 981	0210 #WAVE 3 KY 1049	3 MS 0232 #WSIL 3 IL 887

I believe this early morning Es was MS induced as MS was hot and heavy with 15-20 bursts per minute on channels 2 and 3. A lot of bursts on channel 3 with CBS Nightwatch, but no ID or idea of it's location. WSIL-3 had "KPOB, Poplar Bluff" in a black box over color bars, but no WSIL-3 ID that I could see.

4 LS 1333 KNCT 46 TX 368	8 Tr 0105 K11PF 11 TX 201	8 Tr 0145 K44## 44 (LPTV STV - SelecTV)
1802 KCTK 14 TX 201	0139 #KTBC 7 TX 377	0147 KSHBT 41 MO
1806 XHLJ 44 CH 205	0140 #K42AG 42 OK 300	0215 KHTV 39 TX 515
1836 KCOS 13 TX 201	(Strong City KFDA-10)	0234 #KWTW 9 OK 380
1840 KRKG 22 NM 199	0142 #K51## 51 ??	0235 KOKH 25 OK 380
	(Unknown KFDA-10)	

The early morning tropes of the 8th were a surprise with VHF translator K11PF (Ozona, normally translates WFAA-8, 10w). At times, the VAFI was 4054. The only audio heard was KLST-8, San Angelo, (2 on the scale). CCI was unusual with KSWS-8 and KLST-8; also, a little from KTWT-11 or KHOU-11. The LPTV with STV (SelecTV) was on a direct line with Strong City, OK. I've received a translator on channel 44 with KWET-12 on it on a Lawton, OK heading (also unid), so I doubt if the same. Audio was allowed over the air (dirty words and all), but picture was scrambled. (SelecTV determined with my satellite system located on Westar 5, transponder 5). I hope the new translator guide is out soon!

(Jim, I wonder if your LPTV is K44AK at Memphis, TX? I believe they are close to a Strong City heading from your QTH. fm)

9 Es 2234 unid ch 2 ne (Gone by 2245)	12 Tr 0058 K42AG 42 OK 300	12 Tr 0123 K44## 44 ??
(Lots of MS this evening. Es was probably MS in- duced.)	(Strong City KAMR- 4)	(Unknown KOKH-25)
0112 K40AC 40 OK 300	0127 K58## 58 ??	(Unknown KSWS- 8)
(Strong City KVII- 7)	(No audio)	0133 K67BD 67 NM 135
0115 K59BD 59 NM 152	(Montoya KGGM-13)	(Cedar Canyon KOB- 4)
0119 K57BR 57 NM 152	0119 K57BR 57 NM 152	0137 K68## 68 ??
(Montoya KOAT- 7)	(Montoya KOAT- 7)	(Unknown KSWS- 8)

Channel 44 seen (on the 12th) - may be the same LPTV/translator seen on the 8th. Just as strong a signal, only with KOKH-25. Then again, it may be different. Also, two new KSWS-8 translators are on. Must be in the Fort Sumner / Santa Rosa area?

14 Es 1500 WSJK 2 TN 1070	14 Es 1531 WYFF 4 NC 1206	14 Es 1623 unid ch 7, WITF?
1502 WRCBt 3 TN	1534 WCYB 5 TN 1224	1640 unid ch 7, WJHG?
1509 unid ch 4 east	1547 unid channel 6 e	1718 WESH 2 FL 1346
unid ch 5 east	1558 WRAL 5 NC 1413	(Es gone - 1750)
1515 WFMY 2 NC 1350	1605 WSB 2 GA 1098	1808 unid ch 2 Mexico
1525 WBTV 3 NC 1206	1616 WWAY 3 NC 1463	1810 unid ch 3 Mexico
1530 WRCB 3 TN 1035	1622 WCTV 6 GA 1148	(Es gone - 1830)

A real surprise, this day - Es like in July. Three and one half hours and MU on channel 7. Caught this one at the very beginning - about 1450, the first hint of Es on channel 2 - made it to FM around 1547. Opening was very intense with one new one logged. There were heavy thunderstorms over Mississippi and western Tennessee that afternoon - maybe had something to do with it?

15 Es 1022 CKCY 2 ON 1345 (CKCY TV2, Cable 11. 2-11 logo.)	17 MS 0237 #WSIL 3 IL 887	21 Tr 2213 WMAH 19 MS 878 (W / WMAO-TV ID)
(Gone by 1038)	*1000 KGAN 2 IA	2214 WAPT 16 MS 772
1101 unid 2 east PBS	1126 WUNDt 2 NC	WUSFT 16 FL
(Gone by 1115)	1126 WPMY 2 NC 1350	(0 kHz to WAPT.)
1202 unid ch 2 east	1628 unid ch 2 XEW? s	2220 unid ch 15, WPMI
(Gone by 1220)	(Es gone - 1645)	or KADN - Thicke
1417 unid ch 2 ne	21 Tr 2201 KLPA 25 LA 644	2223 WLPB 27 LA 743
(Gone by 1428)	2202 WGNO 26 LA 819	2226 WFTSt 28 FL
17 MS 0131 #KJRH 2 OK 473	Houston 20,26,39	(10 kHz to KAMC)
	2204 KLAX 31 LA 644	WRBT 33 LA 743





# ANTENNA NEWS

Doug Dornbos  
P.O. Box 1288  
Traverse City, MI 49685

January 1984

Dear Fellow DX'ers,

Well here it is already, 1984! Big Brother is definitely overbearing at times but I'm sure we all can reflect on areas of our lives that we enjoy freedoms greater than any other generation. Maybe the freedom thing is one reason I like antennas so much. With so much information on the air-waves it sure is interesting some times to swing the yagi around and pick up a late night Larry King show or a newscast from another city with entirely different problems than that in which I live. Maybe too, the reason I like antennas is because in countries that are not free, there are countless people with hidden antennas intercepting signals from across the border. There is no such thing as censored information when somebody has a radio and a good antenna. Of course I don't think of these things very often but seeing as how this is 1984 I thought it might be good to just spend a moment thinking about the freedoms we do have and be thankful.

#### MEMBER'S INPUT

Thank-you Danny Buntin for mentioning the balloon article in your TV-DX report last month. I got so excited about it that I got a little carried away putting in articles this month. Anybody else out there got anything to report on the articles?

#### MAGAZINE ARTICLES \* DURING THE REIGN OF LBJ

Indoor Horn for TV-FM Reception	Electronics World	Dec 63
Indoor FM Antenna	Consumers Bullitain	Feb 64
Uhf Converters-Circuits & Design	Electronics World	" "
Tower for TV: 30,000 Dead Birds	Audubon Magazine	Mar "
Indoor Powered Antennas	Popular Mechanics	Apr "
Trouble Shooting TV Ghosts	Popular Electronics	" "
Radio & TV Interference	Electronics World	Jun "
For the 2 TV Family, Two-set Couplers	Consumers Report	Jly "
Results of EW Tests on UHF Converters	Electronics World	" "
UHF Converters:Blonder Tongue BTC99s & BTU2t	Consumers Report	Aug "
Reducing UHF TV Interference	Electronics World	Sep "
Near Field Measurements of Aerial Patterns	R & E Engineering	Nov "
Inconspicuous New UHF Converter:B-T BTD-44	Consumers Report	Jan 65
Is Your TV Antenna Out of Date?	Popular Science	" "
Loss Figures For 300 ohm Twin-lead	Electronics World	" "
Some Corrections On TV Roof Antennas	Consumers Report	" "
FM Roof Antennas	"	Feb "
Multi-set Couplers: Operation & Problems	Electronics World	" "
2-Set Couplers for TV and FM	Consumers Bullitain	" "
Line-of-sight Monogram:Required Antenna Heights for Various Reception Ranges	Electronics World	Mar "
Antennas for Color TV	Radio-Electronics	Apr "
Antennas:Which,Why,When,& How Much?	American Home	" "
Some Observations With VHF Folded Dipoles	Popular Electronics	May "
Antenna Rotators Pinpoint Signals	"	" "
Are You Ready for UHF?	Electronics World	" "
Booster for FM Stereo	Electronic Industries	" "
Guide to Antenna Selection	Popular Electronics	" "
How To Improve Color TV Antenna Installations	"	" "
New Generation of Antennas	"	" "
Selecting A UHF Antenna	"	" "
UHF TV $\frac{1}{2}$ -Wave Shorting Stub Monogram	Electronics World	Jun "
Cylindrical Steel TV Mast	Engineer	Jun 11, "
Antenna Rotator Remote Control	Radio-Electronics	Jly "
Improved All-Channel TV Antenna	Consumers Report	" "
Reinforced Plasic Radomes Minimize TV Ghosts	Plastics World	Aug "
Antenna Baluns	QST	Oct "

Antenna News

Page 2

January 1984

#### Magazine Articles 1963-1968 (cont)

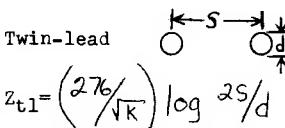
Indispensable Antenna:Outdoor Antenna A Must for FM High Fidelity	Oct 65
New Shielded Twin-lead for Color TV & Uhf	" "
How To Stack TV Antennas	Nov "
Color TV Ghosts	Dec "
Stereo FM Antennas	Jan 66
Designing An All-channel TV Antenna	Feb "
New Uhf TV Antenna Design	Mar "
Put 'em Up & Keep 'em Up	Apr "
Rotate To Better TV Viewing	" "
Study of Guyed Towers/Proceedings-American Society-Civil Engineers	" "
Antenna Boom	May "
Communal Aerial Amplifiers	Wireless World
Low Profile Uhf Antenna	Electronics World
Riding the TV DX Trail	Popular Electronics
Antenna Rotators	Consumers Report
New Low-loss Coax for TV	Electronics World
Simple TV Filter for 50 Mhz	QST
Uhf TV Reception	Radio & Electronic Engineering
Aerial Gain & How It Is Measured	Wireless World
Alliance Tenna Rotor	Radio-Electronics
FM Stereo Antenna Primer	Audio
NBFM Routs 6-Meter TVI	Popular Electronics
Mast Mounted Preamp	Radio-Electronics
Two Useful Pitched Roof Antenna Mounts	" "
Unusual TV Antenna:Described in Soviet Electronics Hobbyist Journal	Proceedings-Institution-Electrical
Corona & Precipitation Interference in VHF TV Reception	Engineers
Wire Mesh Aerial Reflectors	Wireless World
Antenna Rotators & Indicators	QST
Hot Antenna For Cool Color	Popular Mechanics
Reception is Loud & Cool for Subminiature Antennas	Electronics
Selecting Antennas	Popular Electronics
Selecting Transmission Lines	" "
TV Antenna Sampler	" "
Wiring Your Home For TV	" "
Improve Your FM Reception	High Fidelity
Major Antenna Breakthrough?	Radio-Electronics
Mini Antennas Now Have Great Big Ears	Product Engineering
Electronic Antenna Rotation	Radio-Electronics
In's & Out's of Lead In's	" "
Antenna Report	" "
Colour Receiver Techniques-Getting the Best Signal	Wireless World
FM Antenna Problems	Audio
TV Antenna:Skyprobe	Consumers Report
Designs for Log-Periodic FM & TV Antennas	Electronics World
Build A Mini-tenna:Sub-miniature Integrated Antenna	Radio-Electronics
Log-Periodic TV Aerial	Wireless World
TV Roof Antennas	Consumers Report
Updating on Downlead:Lead Ins for TV & FM	High Fidelity
How To Deal With RF Interference	Radio-Electronics
MATV Is Simple	" "
Tiny Antennas Push State of the Art	Electronics World
TV Antennas To Handle Uhf	Electronics-Mar 4
Antenna Rotators	Radio-Electronics
Build A High Gain 48 Element Uhf Antenna	" "
Home Antenna Systems	" "
How To Get The Most From TV Antennas	" "
TV & FM Antennas & Home Systems:Symposium	" "
TV & FM Antennas Are Getting Bigger	" "
FM Receiving Antennas	Audio
TVI Traps Simplified	May "
I Can't Hear You When the Window's Closed	Jly "
Your TV Antenna May Be Out of Date	Aug "
How To Install A MATV System in Your Home	Sep "
Saving On A Color TV Antenna	Mechanics Illustrated
Stamp Out That RFI	American Home
	Motor Boating

## THEORY \* TRANSMISSION LINE IMPEDANCE

If you have ever taken out your ohmmeter and measured across some twin-lead hoping to figure out why they call it 300 ohm cable, you probably ended up by scratching your head and vowed to tackle the problem again some other day. This month we will briefly discuss the whys and wherefors of line impedance.

Transmission line for TV comes 2 ways as you know: 300 ohm twin-lead and 75 ohm coax. These impedance values are the value of a resistor which, if connected across the end of the line would appear to the antenna as an infinitely long line. DON'T GET CONFUSED SO AS TO STOP READING HERE! Think about it this way: If a signal travels down an infinitely long length of coax, it just keeps going in the direction it started in and none of it ever goes back in the direction from which it came. Now, if we cut that coax to some finite length and placed a 75 ohm resistor across the end of it, when the signal got to the resistor, it would all be used up by the resistor, thus, just as in the infinitely long coax, no signal would return to its' source. As far as the antenna is concerned, this terminated coax appears no different than the infinitely long coax since it sends its' signal down it never to see it again. I don't mean to belabor the issue but I want it to be clear before we go on. Now, if instead of placing a 75 ohm resistor across our TV coax we place instead a resistor of another value, for example let's say 1000 ohms, that resistor will reflect a portion of the signal back up the line towards the antenna. Under these conditions the antenna no longer sees a line anything like the infinitely long line. No wonder I couldn't measure it with my ohmmeter you say! Don't feel bad. I believe I tried it at one time myself.

How then, without sophisticated test equipment can a person estimate the impedance of an unknown piece of coax, or how can a person make his own air insulated twin-lead? Well even though the impedance of a line can't be measured with an ohmmeter, it can be easily figured out with a ruler and a calculator with a log function. Before looking at the formulas though, take a look at the pictures so you can see how basic this is.



Where:  $Z_{tl} = \left( \frac{276}{\sqrt{K}} \right) \log \frac{2S}{d}$   
 Twin-lead  
 S is the space between the conductors.  
 d is the diameter of the conductors.  
 K is the dielectric constant of the insulation between the conductors.

$$\text{Coax}$$

$$Z_{cx} = \left( \frac{138}{\sqrt{K}} \right) \log \frac{D}{d}$$

Where:  $Z_{cx}$  is the impedance of the coax in ohms.  
 D is the diameter of the shield.  
 d is the diameter of the inner conductor.

Dielectric constants are a property of insulating materials and a table of the most common insulators and their constants is given below.

Air	1.0
Polyethylene	2.3
Cellular Polyethylene	1.7
TFE Teflon	2.1

It might be good here to point out that on coax we are not concerned with the insulation covering the shield, only that between the shield and center conductor. Also note that distance S on the twin-lead is from center to center.

Another parameter given in wire catalogs that may be confusing is the velocity of propagation which is the speed at which a signal travels through the line compared to how fast it travels through air. The reason I bring this up now is that it all depends on the dielectric constant of the insulator. The formula is  $V_p = 1/\sqrt{K}$  and is expressed in percent.

Thanks for reading. Next month we'll show how to make a 35¢ trap for channel 15 (or any other channel for that matter). *Doug*

# FM NEWS

Bruce F. Elving, Ph.D., Editor  
 4515 Avenue E,  
 Kearney NE 68847

Contributions invited!

MA Boston WHTT 103.3 no SCA  
 MI Benton Harbor WHFB-FM 98.9 +Music (identifies with St. Joseph MI on main carrier), 50000 horizontal and vertical, 500 feet above terrain.  
 MI Dearborn WNIC-FM 100.3 no SCA, rm on main channel, FM-100 (no more "nicest rock")  
 MI Detroit WCZY 95.5 no SCA  
 MI Grand Rapids WGNR 88.9 adds talking book for blind SCA, now 3000 h.v. (170')  
 WCSG \*91.3 + music  
 WLAV-FM 98.9 no SCA

MI South Haven WCSY 88.3 +ABC networks  
 MO Bethany KAAN-FM 95.9 +X, main carrier is still monophonic, ABC-information, not AP (S)  
 MO Carroll on KMZU 101.1 FM (IL Farm Bureau)  
 MO Kirksville KRLX 94.5 no SCA (open carrier)  
 NV Reno KNEV 95.5 music  
 KOZZ 105.7 no SCA

OH Toledo WKLR 99.9 +X

## Off the Air

IA Des Moines K269AC \*101.7  
 MI Holland WJBL 94.5, has mystery SCA  
 MT Hardin KHDN-FM 95.3, has no local phone listing

WA Ellensburg K257AL 99.3

## Deletions

CA Tahoe City K265AL 100.9 (served by KHTX's power increase on 103.7) [line NV translator now]  
 NV Round Hill K265AK 100.9 (served by State-PQ Chambord new 95.5, rebroadcaster for CJAB Chicoutimi, which is increasing power and will serve the area without the need for the 95.5 station)  
 PQ Duplanteer CKBJ-5 99.1 hydro site construction completed. Also CHLG-5 100.1

## Forums/Networks

AL Troy WIGC 105.7 (AP Network News)  
 CA Los Angeles KKH 93.1 O (CBS Radio Radio)  
 GA Macon WDEN 105.3 Mutual (from E)  
 HI Honolulu KMAI, 93.9, rock  
 KUMU 94.7 b, Bonneville, no satellite relay  
 IL Champigny WEFT 90.1 pc, no stereo  
 IL Glen Ellyn WGHS \*88.5 rock  
 IL Litchfield WSMI-FM 106.1 k [country]  
 IL Morton WTAZ 102.3 Mutual (was NBC)  
 IL Sterling WJVM 94.3 RKO  
 IN Anderson WLHN 97.9 rock  
 IN Brazil WBQJ 97.7 now rock  
 IN Lafayette WAZY 96.5 rock  
 IN Rockville WAXI 104.9 country  
 LA Baton Rouge WBRH \*90.1 jazz and rock  
 LA Morehouse KLL 92.1 k, "Genia's Best Music"  
 LA New Orleans WRBH \*88.3, very little jazz—mostly as filler to justify "FM Atlas" Stereo listing  
 LA Opelousas KOGM 107.1 rock

MD Annapolis WLWM 99.1 p, "Progressive 89"  
 MA Boston WCOZ 94.5 rock  
 MI Holland WYXX 95.1 Mutual  
 MI Mount Pleasant WMHW \*91.5 no network  
 MN Minneapolis WAYL 93.7 bj, adds nighttime jazz  
 KTCR-FM 97.1 no l. utual network  
 MS Mc Comb WAKH 105.7 rock, K-106  
 MS Jackson WYYN 96.3 rock  
 MO Columbia KCOU \*88.1 progressive and jazz  
 NM Santa Fe KNM 85.5 r, "The Canyon," but also uses with calls, so not a nonDir.  
 NY Attica WBTF 101.7 now rock  
 NY Lake Placid WLPW 105.5 m, no stereo  
 Happy New Year to readers of the column!  
 PA Pittsburgh WYDD 104.7 CBS' RadioRadio

January, 1984

RI Westerly WERI-FM 103.7 rock, Stereo  
 SD Sioux Falls KIOV 104.7 Mutual (not NBC)  
 TX Beaumont KZBZ 95.1 Mutual (was ABC-FM)  
 TX Dallas KAEM 92.5 no network  
 TX Denton KIXC 106.1 CBS' Radio Radio  
 VT Colchester WWVP \*88.7, p, stereo  
 VA Arlington WAVA 105.1 rock  
 VA Norfolk WLTY 95.7 Mutual  
 VA Radford WRIO 101.7 rm  
 WA Seattle KEKZ 98.9 rock  
 WA Tacoma KUPS \*90.1 progressive and jazz  
 WI Wauwatosa WEZW 103.7 Mutual  
 ON Peterborough CKOM 105.1 country  
**Facilities' Changes Granted**

AR Little Rock KSSN 95.7 1680' (92000 h.v.)  
 CA Los Altos KOPEN 97.3 3000 h.v.; 300'  
 CA Santa Rosa KCLB \*91.9 2500 h.v.; 1915'  
 FL Orlando WWKA 92.3 98000 h.v.; 1340' ([55])  
 GA Atlanta WABE \*90.1 86000 h.v., directional /  
 GA Gainesville WFOX 97.1 1890' (97000 h.v.)  
 ID Idaho Falls KOPR 99.1 10000 h.v. 1510'  
 ID Rexburg KRIC \*100.5 (from 90.1) 75 (h); 400'  
 reduce FM Atlas maps to small size print, as 10-  
 watt transmitter believed used  
 IL Olney WSEI 500' (50000 h.v.) -92.9  
 KS Manhattan KSDB \*88.1 125 h.v. (-38')  
 LA Baton Rouge KLSU 91.1 5000 h.v.; 160'  
 LA Monroe KNAN 106.1 10000 h.v.; 450'  
 LA Shreveport KRMD-FM 101.1 97500 h.v.; 1120'  
 ME Ellsworth WKHS 94.5 (from 94.3) 50000 h.v.;  
 Stereo, "Kiss-94" (440')  
 MT Shelby KZIN 96.3 550' (100000 h.v. 65000 v.)  
 NJ Long Branch WMJY 107.1 240' (3000 h.v.)  
 NJ Mahanayak WJRZ 100.1 1400 h.v.; 450'  
 NM Albuquerque K2858D 104.9 changes primary  
 station to KEVR 102.3 Espanola NM monaural  
 Spanish, k [electronic antenna]  
 NC High Point WMAG 99.5 10000 h.v.; 1500' dir/  
 NC Raleigh WKNC \*88.1 3000 h.v.; 260'  
 OH Cleveland WDOK 102.1 8700 h.v.; 1005'  
 OR Florence KDUK 104.7 10000 h.v.; 1700' [990];  
 OR Gresham KMHD \*88.1 (from 88.6) 7100 h.v.;  
 TX Sherman KIKM-FM 96.7 300' (3000 h.v.)  
 VA Charlottesville WQMC 95.3 3000 h.v. (145')  
 BC Campbell River CBYX 104.5 94 h.v. (340')  
 BC Princeton CIGV-2 to be on 98.1 73 w; 285'  
 BC Vancouver COK-FM 96.1 44000 h.v.  
 MB Selkirk CFQX 92.9 35000  
 NB Moncton CBA-FM 94.5 77000  
 CBA-FM 94.3 77000  
 NB Saint John-Fredericton CBD-Fm 91.3 (from  
 Fredericton-Saint John)  
 ON Brampton CFNY 102.1 35000 h.v. omni (1380')  
 ON Hearst CBC 91.1 10500  
 ON Peterborough CBP 103.9 17300 directional  
 CIBC 5 106.3 9500 (380')  
 PE Charlottetown CBAF-29 88.1 33500 (700')  
 PQ Champion 92.3 170 watts; 93.1 165 watts  
 PQ Chiconti CJB 94.5 (from 96.7) 56000 xmtr  
 to Mount Valin  
 PQ Harrington Harbour CBMU 5.5 (from 95.3)  
 PQ Montreal CITE 107.3 44000 to Mount Royal  
 PQ Quebec CITF 107.5 37000  
 PQ Rimouski CKLE 96.5 (from 104.5)  
 PQ Sherbrooke CFLX 95.5 (from 99.7) 1600, but  
 will operate with 250 w until May 1, '84; calls, too  
 NW Coppermine CBIO 105.1 adds local community  
 access

**Call Letters Assigned or Changed**

AL Montgomery \*90.7 WVAS  
 AR Hot Springs \*90.1 KSCB  
 CA Dinuba 98.9 KOJY (KLTA)  
 CA Lancaster 103.6 KKZZ (not KKZZ-FM; AM sta-  
 tion has former FM calls, KOTE) [non-D]  
 CA San Francisco 93.3 KYA-FM (KLTH), r, RKO, no/  
 CA San Luis Obispo 98.1 KKUS

CA Tracy 100.9 KYBB (KWGF)  
 CO Grand Junction \*89.5 KPRN  
 FL Madison 104.9 WIMV  
 FL New Port Richey \*91.7 (91.5?) WLPJ, g  
 FL Tallahassee 94.9 WTNT-FM (WCSN)  
 GA Cochran \*89.7 WDCO-FM  
 GA Gordon 107.1 WQXM-FM (WIZY-FM)  
 GA Savannah 93.1 WEAS-FM (WEAS-FM)  
 ID Coeur D'Alene 103.1 KCDK (KIOB)  
 IL Aurora 95.9 WKKD-FM (WKKD)  
 KS Kansas City 94.1 KFKF-FM (KFKF)  
 LA Bayou Vista 95.3 QKQI (QKQI-FM")  
 LA New Orleans 93.3 WQUE-FM (WQUE)  
 ME Augusta 92.3 WRDO-FM (WSCL), rock (\$)  
 ME Ellsworth 95.7 WVMJ (WDEA-FM), rm  
 MD Cambridge 106.3 WCEM-FM (WESP-FM)\$  
 MI North Muskegon 98.3 WFWM on air, Stereo  
 rock, "Magic '98" with transmitter just out-  
 side 65 mile limit of WFCY 98.3 S. Haven MI.  
 MN Hibbing 102.3 WMFG (WMFG-FM)  
 MO Kansas City 94.9 KCMO-FM (KCEZ), KC-95  
 (strict), k, CBS  
 NH Berlin 102.7 WMOU (WXLO), k, monaural  
 NJ Cape May 102.3 WSJL (WRIO), stereo/  
 NY Elv 92.7 KBXS  
 NM Grants 95.3 KLLT (KYKK)  
 NM Rio Rancho (apparently an Albuquerque  
 suburb but not on any of my maps--help!)  
 101.7 KZIA-FM  
 NY Carteret 103.1 WTOJ  
 NJ Moyock 92.1 WNFWM (WQZQ), adds dual  
 of Chesapeake VA  
 ND Fargo 101.9 KRRZ, Mutual  
 ND Minot 105.3 KZPR  
 OK Atoka 103.1 KEOR-FM  
 OR Creswell 95.3 KZAM (KRNN)  
 OR Portland 100.3 KZRK (KOFM)  
 PA Braddock 96.9 WHY-FM ("WHY-FM")  
 PA Pittsburgh \*88.1 WFBF  
 PA Stroudsburg 93.5 WSBG (WVPO-FM), Stereo/  
 SD Reliance \*91.1 KASD-FM"  
 TX Mineral Wells 95.7 KYKS-FM" (KYXS-FM)  
 TX San Antonio 96.1 KSLR-FM (KSLR)  
 TX Wichita Falls 92.9 KNIN-FM" (KNIN-FM)  
 UT Ogden 95.5 KJQN-FM (KVFM)  
 WV Huntington 90.1 WVPG  
 WI Wausau 107.9 WXCO-FM  
 AT Athabasca 93.3 CKUA-FM10  
 AT Banff 99.3 CHFM-1, (format in Atlas should  
 match originating Calgary station)  
 AT Edison \*103.7 CKUA-FM8  
 AT Fort Mc Murray \*96.7 CKUA-FM11  
 AT Hinton \*102.5 CKUA-FM7  
 AT Medicine Hat 100.5 CHFA-8  
 AT Whitecourt \*107.1 CKUA-FM9  
 BC Shalalth 95.1 CHBR  
 MB Brandon 99.5 calls probably still CKSB-8; the  
 report of CBTF believed to be in error  
 MB Brochet 105.1 CBDE  
 MB Gill 97.1 CFIL  
 MB Ilford 97.4 CBWI, not CBMS  
 MB Jenpeg 96.1 CJEN  
 MB Shammattawa 105.1 CBDG  
 NB Fredericton 93.1 CKHJ, "Country-KHJ," \$  
 NF St. John's 98.3 CKIX  
 PQ Chibougamau 90.3 CBVC, English  
 91.9 no calls assigned (listed as CBVC before  
 PQ Chibougamau CFB (Canadian Forces Base)  
 103.1 CHIB  
 PQ Kuujjuaq 96.9 CKUJ  
 PQ Les Escoumins Reserve 95.1 CHME  
 PQ Ste. Therese 103.1 CFOU ("Fou" is French for  
 fool. If they pronounce the calls "C'Fou," it  
 would mean "It's a fool," or "it's foolish.")  
 NW Fort Liard 107.1 CHFL  
 PQ: mistakes (as one reader calls them):

**FM Atlas Errors**

AR Clinton KHPG calls missing, p. 30, 92.1  
 CO Steamboat Springs K249AW 97.7, not 95.1, p. 67  
 LA Jonesboro KJBO (not KTOC), p. 30, 104.9  
 MN Tower-Soudan K269AJ is on 101.7, not 98.9,  
 page 80.  
 MT Great Falls 92.9 KLFM (not KLEM), p. 105.  
 OH Dayton WHIO-FM 99.1 p. 85, no \*  
 SD Pine Ridge KINI, p. 42, 105.5, not 101.5  
 TN Martin WUTM \*90.3 should be in large type p 32  
 PQ Victoriaville CBF-12 92.7 not 96.5, p. 67

All data for this column obtained from reporters,  
 FCC sources, trade publications. I do not recopy  
 format or stereo data from the DXing columns in  
 the VUD, but do enter much of what appear to be  
 station changes in my database. You should also  
 check the VUD for your own records, but do not  
 send any information from the VUD or any other  
 published source without identifying the source.  
 Thus from Frank Morris' DX report last month,  
 p. 14, you can read that WCVZ 92.7 Zanesville OH  
 has stereo, but we can all read that for ourselves,  
 can't we? It would help if all DXers noted which  
 stations they received, specifically, have or have not\$.  
 Thus from last month's VUD, I'd love to know  
 in Eric Fader's report, p. 8, if WGTF 96.3 Nantucket  
 MA had stereo, or if Frank Merrill (p. 13) might  
 have noted if KCFM-92.7 Trinidad CO is stereo.  
 Try to DX in stereo, if possible, or at least flip the  
 switch to the stereo position on each station you  
 hear for a while to check its stereo status. That way,  
 you won't get a postcard from me asking if a  
 certain DX catch was in stereo or not!

**Contributors, Dec. VUD:**

Lawrence R. Auskin, Yakima WA; W. M. Beckett,  
 Fort Stockton TX; P. L. Boerner, Spring Lake MI;  
 Phil Bytheway, Seattle WA; Ferdinand S. Dombrows-  
 ki, Jr., Milwaukee WI (who is interested in the  
 philatelic specialty of telecommunications topicals);  
 John S. Dresser, address unavailable; John Ebeling,  
 Bloomington MN; Bill Fahber, Bridgeton NJ; Ted  
 Fleischaker (who sent a card from his Myrtle Beach  
 SC vacation spot); Wendell Ford, Westville IN; Ger-  
 ald W. Gardner, Staten Island NY; Charles George,  
 Dallas TX (who sent new clippings about KNON  
 99.0 returning to the air, amidst controversy; seems  
 the channel is sought after by KCBY 89.1 Dallas,  
 which can't fit 99.0 in its present frequency); Al Germond,  
 KARO, Columbia MO; John M. Jefferson, Pleasanton  
 CA; Albert S. Lobel, San Diego CA; Rev. C. T. Man-  
 ning, Rochester NY; Fred McCormack, Faro ND  
 (who has been trying to be more diligent in noting  
 stations he hears while DXing as having stereo or not);  
 George Mileon, Lynn MA; David Mitchell, Fairfield  
 CT; Jim Pizzi, Lovington NM; Leslie Price, Wilmette  
 IL; Douglas L. Verner, Cedar Falls IA (who has an  
 FM channel search and consulting business at 1600  
 Picturesque Drive 50613); Peter Wells, Rindge NH;  
 Donald R. Wilkerson, North Highlands CA.

CBC Relayers (all believed to be FM), mentioned at  
 sign off of CBW 990 Winnipeg and CBOT 90.5  
 Fort Frances ON (English network).  
 Ontario: Atikokan, Ignace (?), Dryden, Sandy Lake,  
 Pikangikun, Ear Falls (?), Hudson (?), Pickle Lake,  
 Osnaburgh, Swan Lake, Sioux Narrows, Sioux  
 Lookout (?), Kenora, Vermillion Bay (?), Red Lake.  
 Manitoba: Pakitowagan (?), Lynn Lake (?).

**FM:stakes (as one reader calls them):**

**FCC-FM**

Woboden (?), Gillam (?), Churchill (?), Easterville, Grand Rapids, Ilford, Leaf  
 Rapids, Moose Lake, Nelson House, Snow Lake, The Pas, Dauphin (?), Brandon,  
 Fairford, Fisher Branch, Berens River, Jackhead, Oxford House, South  
 Indian Lake and Winnipeg, closing with technical data about CBW Winnipeg  
 with 50000 watts on 990 and "Oh Canada," tones and carriers on all night.  
 I wrote CBW asking them to give more complete identifications of all their  
 relays, especially at sign-off. I wrote similarly to CBQ (AM) Thunder Bay  
 for them to do the same, but no response from either firm. Stations (or towns)  
 with (?) are not known to be FM and more information about any of them  
 would be appreciated. The town of the broadcaster over which I was hearing  
 the sign off information, Fort Frances ON, was not even mentioned—and it is  
 a 50,000 watt station on the U. S. border!

**Readers Reports**

Off-air nonbroadcaster WJBL 94.5 Holland MI is being taken over  
 by new owners, has applied for new call letters and is expected to be  
 on the air early in 1984. Look for a new format, and check to see  
 what, if anything, their SCA authorization is being used for. They  
 are building new studios, too. A Topeka friend of Phil Boersma sent  
 a copy of an article, "To Dedicate First FM Radio Station in Kansas  
 Today," about WIBW-FM 102.5, which will operate from 3 p. m. to  
 9 p. m. daily, "featuring the finest music and news." This Topeka  
 "Daily Capital" article was dated—guess it—Dec. 1, 1946. It  
 alluded to messages from the governor, the mayor, a senator and FCC  
 Commissioner E. C. Jett speaking from Washington. The irony is that  
 WIBW-FM was only 250 watts, lasted no more than two to four years  
 and its exciter was donated to Kansas State University, and used as  
 KSDB(FM) on \*88.1 for many years. It later was resurrected on 97.3  
 as "97-FM," and, in my opinion, features anty...ing but the "finest  
 music."

Among all the FM changes in the Washington DC area is WAVA  
 105.1 Arlington VA going to straight rock. "Slogan is 'Hit radio 105  
 WAVA,' with calls given often in voice or jingles. Word 'Arlington' in  
 legal ID jingle is humorously buried. Very up tempo format. Stereo,"  
 writes Greg Monti.

In New York, WIZR 104.9 Johnstown is back on the air in mono,  
 simulcasting WMYL (AM)'s nostalgic format.

Robert Grant has noticed a "trend of AM stations simulcasting FM  
 (rather than the other way around). That is, an AM simulcasting an  
 FM with little or no mention of the AM. The best example of this is  
 WRNN (990) Clare MI. They use 'Foxy-95 WCFX' on the air with no  
 mention of 990 or WRNN during most of the hour. At the hour, the  
 ID like this: 'Foxy-95 WCFX Clare' and WRNN Clare'... I think all  
 AM-FM simulcasting should be banned. Much like no company can  
 own a VHF and a UHF TV station in the same market and use them  
 both for simulcasting. But banning am-fm co-ownership would cause  
 mass deletion of AM stations and loss of alternative services (owned  
 by FMs) like WHND and WCCW... "FM Atlas" future edition sug-  
 gests: To increase the ease of looking up formats, I think formats  
 should be in all three listing sections. (Now, if I hear a particular  
 format on a frequency, I must look up the locations of all stations  
 on that frequency and then go through the geographic section.) List  
 directional coverage (d) where it is most evident, in the coverage ,  
 radius listings rather than in the antenna height. On the maps, the  
 individual state maps should have the page numbers for the maps of  
 bordering states. FMusings: I agree with you that without a double-FM is  
 superior to AM MW band, in engineering terms. I would be in favor of eliminating  
 the AM band if there were something to replace its service. There isn't. An  
 effort to swap the AM band with amateurs for the 1/4 m band could not get the  
 international co-operation needed. And 100 kHz FM spacing would result in  
 reduced coverage because of alternate-channel interference. One-hundred-kHz  
 FM spacing would not provide as much extra bandwidth as AM's 107 well-spaced  
 channels. For million of oldies, big band, news and ethnic listeners every day,  
 AM is better than nothing at all. And I don't see why you would be rooting for  
 its destruction. I think you should put your mind to solving AM's shortcomings  
 with technology. I would note that the EFM 88-92 subband was intended as a  
 semi-ground-band to protect TV-6 from the commercial FMs on 92 and above. I  
 think KFSI (\*88.5 Rochester MN) should consider Class 2-D AM service."

In CA, KCEQ 100.5 Walnut Creek confirmed on the air, with  
 transmitter at Acalanes High School in Lafayette. "That's in a  
 canyon which reduces their coverage to near-zero. Less than ½  
 mile west, was unable to pick them out of KEBR Sacramento  
 (which, please note, is NE of Lafayette). East wouldn't likely be  
 better, and to the north hills are guaranteed to get them in less  
 than a mile. That leaves south, and a mile down the freeway in  
 that direction KCEQ and KEBR were alternating. Quite a signal.  
 Probably will be a challenge to log them here [in Pleasanton] even  
 with KEBR off; otherwise, it's plainly hopeless," writes John M.  
 Jefferson. He says "still no sign of KOKQ 95.1 Oakdale, KRBQ  
 102.3 Red Bluff or KNTO 95.9 Livingston. Not even listed in the  
 phone book."

Dr. Richard Wood now has FM in Abha, Saudi Arabia, and there he gets  
 three local stations: 90.4, 94.9 and 95.9, all in Arabic with no sign of semi-  
 locals or DX. Walter Patton supplied much of this month's Canada news,  
 some two months' worth, with a previous shipment lost in the mail, appar-  
 ently. Cable FM DXers can note that CBC-FM and the French FM network  
 are now on the Anik D satellite and are available to cable companies.. .  
 CBC-FM begins 24-hour operation Feb. 1, 1984, and CBC (AM) plans 24-  
 hour operation a few months later if funds are available, and has no plans  
 to go stereo on its FM stations, because of cost. With regard to commer-  
 cials, the CBC English and French CBC networks have no commercials  
 except where unavoidable such as Texaco's New York Metropolitan Opera  
 broadcasts [I know many so-called "public" FM stations in the U.S. also  
 carry Texaco advertising—B. E.]. The CBC AM stations (with their FM  
 broadcasters) carry no advertising except in places where there is no com-  
 peting commercial station. Essentially, this would be limited to French stations  
 which originate programming outside the province of Quebec and  
 who have rate cards for individual stations and the network as a whole, and  
 CBVE-FM in Quebec City. Commercial stations which are affiliated with  
 the CBC have ads even within the body of CBC programming. Community  
 and university stations are restricted in their commercial time to four to

**January, 1984**

allows. George believes that WFNX 101.7 Lynn might make use of 92 kHz  
 for a paging service locally. On a recent business trip to Rockford, Chicago,  
 Milwaukee, Kalamazoo and across Iowa and northern Missouri, did not  
 hear any 92 kHz SCA activity, except for an open carrier on WNU 98.5  
 De Kalb IL, which has been experimenting with 92 kHz. The only 92 kHz  
 activity heard for real the s.tim distance is that of KROA \*95.7 Grand  
 Island NE, with paging.

An editorial in the Wilmington [NC] Morning Star, Nov. 19,  
 "WECT stifles FM stations," says that "WECT-TV has squashed  
 its second FM radio station in a year. This one would have been  
 at UNCW, giving students a chance to learn radio, the university  
 a chance to serve and improve its relations with the community,  
 and the area a new noncommercial source of information and entertainment.  
 But, at the request of WECT, the university has halted development of the radio station because its signal might-  
 might—interfere with the TV signal coming from channel 6. . .  
 Under the circumstances, it would seem sensible for the university  
 to try to get a compromise, some kind of experiment, with WECT.  
 At this point, it does not seem inclined to do that. It knows what  
 kind of financial and political power its up against. So do the  
 Friends of Public Radio [which had to compromise and agree to  
 reduce the power of their FM station application]."

Tom Cornell did some measurements for his employer on the new  
 92-kHz SCA. Some of his findings are:  
 1) Adding the new 92-kHz SCA and staying with the present 75-kHz deviation  
 limit causes little change in adjacent or alternate channel interference  
 [but 92 kHz, by its very definition, implies straying beyond 75 kHz, doesn't  
 it—B. E.]. 2) Under some modulation conditions, interference can actually  
 increase with the new SCA. 3) There is no change in interference with the  
 new SCA compared to the adjacent channel. 4) Increased deviation along with the  
 new SCA will cause from 4 to 10 dB increase in alternate channel inter-  
 ference. I would judge such an increase in interference as far from negligible.  
 Further, if wider deviation is allowed, it must be permitted only  
 where station-station spacings are ample enough to provide a required  
 protection ratio. I will let you draw your own conclusions. Obviously, I  
 wear two hats."

Tom notes no SCA on WZPL 99.5 Greenfield IN (was music) and  
 US Naval Observatory time on the SCA of WUOL \*90.5 Louisville  
 KY, which is said to be WVV. I assume WUOL is picking up  
 the time off National Public Radio lines.  
 Tom sent a report of the Consumer Electronics Group of the  
 Electronic Industries Association to the FCC on 92 kHz, with the  
 conclusion that the group "does not object to a 10% increase in  
 the maximum deviation when two SCAs are present. EIA/CEG  
 would remind the Commission that a series of 'inconsequential'  
 changes in the interference protection given FM broadcast stations  
 could result in a deterioration of FM as a quality broadcast service  
 over a period of time."

In CA, KCEQ 100.5 Walnut Creek confirmed on the air, with  
 transmitter at Acalanes High School in Lafayette. "That's in a  
 canyon which reduces their coverage to near-zero. Less than ½  
 mile west, was unable to pick them out of KEBR Sacramento  
 (which, please note, is NE of Lafayette). East wouldn't likely be  
 better, and to the north hills are guaranteed to get them in less  
 than a mile. That leaves south, and a mile down the freeway in  
 that direction KCEQ and KEBR were alternating. Quite a signal.  
 Probably will be a challenge to log them here [in Pleasanton] even  
 with KEBR off; otherwise, it's plainly hopeless," writes John M.  
 Jefferson. He says "still no sign of KOKQ 95.1 Oakdale, KRBQ  
 102.3 Red Bluff or KNTO 95.9 Livingston. Not even listed in the  
 phone book."

George Mileon mentions hearing about a process invented at CBS for an en-  
 hanced method of FM broadcasting, but I am not sure what he means, unless it's  
 a method of broadcasting stereo with less loss of coverage than the present system

[Walter Patton's report on Canadian broadcasting, continued]

eight minutes per hour, depending on the particular station, and ads may not be comparative or be of a nature to persuade buyers to purchase something. Thus, a store would give its location, times of opening and merchandise available, but would not be able to quote prices. Despite these restrictions, many of the ads sound remarkably like regular commercials, so much so, that there have been complaints against some of these stations by the regular commercial outlets.

All Canadian FM stations contain "FM" as part of their calls. Many of the calls from which you have omitted this suffix in your Atlas are also used by TV transmitters, occasionally in towns quite distant from the FM transmitter. [Examples? Then, I have a rule that the suffix will not be used unless the TV station was established first; if the FM station was established first it would not have the suffix—the TV would, but if the TV were established first it would not have the suffix, but the FM would; this prevents two suffixed stations from developing. In the absence of other data, I assume the FM was the first established and would tend not to put a suffix on its call letters—B. E.]

The chairman of the CRTC has resigned before the completion of his seven-year term. The new head will be the president of CANCOM, the satellite distribution company. This might preface a new direction in CRTC (Canadian Radio-Television and Telecommunications Commission) policy.

CANCOM was authorized to add VGM (AM) St. John's NF to the radio stations available for rebroadcast.

Peter Wells sent information on a "pocket receiver" for financial information from Wall Street, digital, advertised in Barron's. It is believed to pick up digital information on SCA from some stations—and is available only in New York, Washington DC, Chicago and has just come, or is just coming, to Boston, Dallas and Detroit, within a 50-mile radius. He said he's happy to see the revival of interest in the big bands. "The FM bands around here [Ridge NH] have been somewhat of a wasteland as far as I am concerned. The 'beautiful music' becomes a bore and is often poorly selected to boot. Classical is highly variable depending on one's tastes (I have a strong preference for the romantic piano and concertos). Most of the stations play rock variants. WPLM in Plymouth MA (99.1) is a little marginal on reception, plays lots of big band stuff—and has lots of advertising and 'special features'. AM in Ridge is essentially nonexistent; we have a broadband noise interference throughout the area. Incidentally, in the Miami area which I have visited occasionally (my parents lived there) there was a marvellous AM station, WKAT, which played big band all the time."

Newly rejoined WTPDA member Mike Dorner spent two weeks going over the FM Atlas: "I wonder that one person can still put it out, given the great proliferation of FM stations that you point out in the foreword, but more particularly, the hundreds of changes of formats, ERP and whatnot... The amount of station ownership transfers, accompanied by format and call changes, borders on the ridiculous. What it points out, I think, is the type of fast-buck owner that prevails in FM today. Most of the original FM owners, the pioneers, have long left the industry. Today one has wall-to-wall music in all formats. The playlists have shrunk to a dozen or twenty records, the beautiful music stations play the same tired tapes. The effect has been to move the old AM band monotony onto the FM band. I suppose the young club members would disagree with me, and certainly most Americans, who seem to date on stations with small playlists, and I guess that this is typical of middle-aged people like me to complain, remembering what FM used to be like... Here in New Orleans there is far more variety on the AM band than the FM: Christian contemporary, fundamentalist gospel, top 40, all news, black pop, black/white New Orleans r&b oldies, traditional country, black gospel, contemporary rock, talk, big bands, Spanish, modern country, Cajun and more. On FM, on the other hand, there is reading for the blind, NPR classical/jazz, folk/cajun/salsa/jazz, and aor rock; more, modern country, contemporary, ac, beautiful music, urban country and contemporary urban. Knock out the first five (noncommercial) and the rest of the stations play the same music, basically. The future of FM is dismal, unless AM stereo grows so rapidly as to attract the audiences back—which may be the case, given the difficulty of getting good stereo reception, particularly in cars. You probably won't agree with that last remark, but I don't think the typical WTPDA member is a typical listener, who goes for the loudest, clearest signal. Downtown reception is pathetic, with high-power transmitters (100 kw), tall skyscrapers and overload, multi-path and wash-out. I found the same thing to be true Atlanta and St. Louis, where reception was so poor because of overload that I could not get any of the NPR stations clearly at all, and few of the commercial stations. I resorted to AM during my week stay in each city. [I wonder if Rich Eddie in St. Louis or Nick Lombardi in Atlanta could respond to that—is FM really that poor in those cities, or could it be that Mike is using an imported car radio that does not like to respond to the crowded FM band conditions in this country? Tom Cornell is quick to point out, and I tend to agree with him, that the best-performing car radios for U. S. driving conditions on FM are produced by U. S. manufacturers and included by the factory in U. S.-made cars—such as those made by Delco, Motorola and Ford. I've had very few problems with overload—even using my factory-installed radios with SCA added—in cities like that, even on SCA, such as in Chicago's Loop.] About specific stations in his area, Mike says there is no sign of KHAH 106.7 Port Sulphur (downriver from New Orleans). It is said to be requesting a power increase and transmitter move; should put a good signal over New Orleans. Local AM daytimer, only station in Plaquemines Parish, given by owners, prominent and powerful Perez family, to local Assembly of God Church. That's right, given. Free. May be a sign that KHAH's arrival is imminent. No testing yet. Last Class C in LA. WMAH-FM \*90.3 Biloxi (transmitter Mc Henry) testing with a superb signal, even on bad days. Jackson flagship station (WMAA-FM) delayed because they are completing new studios. WMAA, WMAO Greenwood (TL Inverness) and WMVA Oxford grants are being protested by WABG-TV-6 Greenwood because of potential interference. Manager of system—a YI from the NPR station in Rolla MO—said she doubted that the protest would be entertained. All will be satellites, with eventually some local programming and NPR affiliates.

"WFFF-FM 96.7 Columbia MS still very weak and rare. Lower power came about several years ago when whole city was inundated by rampaging Pearl River. WTLY-FM 97.7 Tyler Texas MS in more frequently than WFFF, but still mono. WVTH \*89.5 Goodman MS heard for the first time in several years... Can't reach station by phone after Jr. college switchboard closes. Most poorly programmed EFM I've ever heard after KHSB Hillsboro KS. Off by 10 p.m. WMPR \*90.1 Jackson still not on. Local WWOZ 90.7 seems to be making it, after a very hard battle at first... Plans call for stereo operation and studio location in the Louis Armstrong Jazz Heritage park, a local city-supported/operated prestige area near Congo Square, where blacks were once sold in an open slavery market. Those familiar with N. O. will recognize it as being next to the Municipal Auditorium and the Theater of the Performing Arts on North Rampart Street, just across from the French Quarter. Apparently noncommercial FM is doing very well in New Orleans."

Last winter WMEA \*90.1 Portland ME, which shared a tower with WCSH, TV6, lost the whole thing when an ice storm brought down the tower. Both have been operating from a 300' temporary tower. By now a new 1500' tower will be erected and both stations should be on with the coverages they once enjoyed. Rod O'Connor, in Hawaii, says in Honolulu, the FM dial remains much the same, with overload and interference a problem on every stereo he's tried in the downtown-Waikiki area—car or home, ghetto-box, or cheapo receiver—even expensive sets in showrooms all have terrible overload problems within 5 miles of most transmitters. His Sony car FM is "just about useless... but I've never heard such bad signal overload (including in New York City, near the transmitters of the Empire State Building and W. T. C.)... I visited Australia this past Aug. and Sept. and very much enjoyed it. I was even interviewed on a community FM station, 2VTF-FM 89.7, 20 watts, at Richmond NSW. The announcer saw me looking up at their antenna ( atop a water tower) and invited me in and asked me all sorts of questions about US radio. Australian FM quite similar to ours. 88-90 for local, community or college use. Rest of dial is for commercial (or non-commercial) use, as here. Sydney has five FM stations, all reportedly doing well and sound quite healthy. One classic 1 top-40, 1 progressive, one easy-listening and one soft rock... an awful lot of U. S. music and features."

Rumor has it that WMUC College Park MD wants to move to \*87.9 and increase to 100 watts—that would be \*87.9's first occupant. And WXKL 92.3 Roanoke VA is said to have a translator pending in Lynchburg VA, while WVTF \*89.1 Roanoke is adding, supposedly, a transmitter or translator in Charlottesville VA.

In Washington, KENE-FM 92.7 Top 40 is still monophonic, but the office secretary told reporter Lawrence Ausink that they have plans for stereo in the "near future."

## FCC-FM

January, 1984

New owners have taken over KSMX 92.1 Fort Dodge IA, with the slogan changed to "92-X," and music to contemporary country and western. "Signal and programming seem all good in the first week," writes Bob Hempel.

Little KMOJ \*89.9 Minneapolis has been the scene of troubles lately, as an article in the "Minneapolis Star and Tribune," Nov. 10 attested: "Police called to settle radio station dispute," involved two top managers of the station in north Minneapolis who were fired but refused to leave. "The resulting confrontation with members of the station's board of directors led to the police being called twice—once by board members and once by the managers. But the threat of anyone being bodily removed from the station didn't materialize."

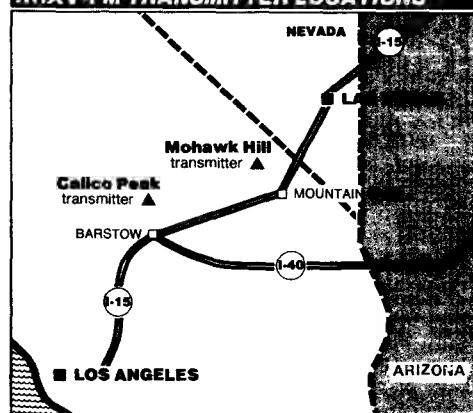
"While all that was going on, the volunteers who staff KMOJ continued to broadcast without interruption. There was only one brief mention of the difficulties over the air, officials said."

"The 10-watt station, at 89.9 on the FM band, is normally on 20 hours a day, seven days a week. It broadcasts from 810 5th Av. N... Although much of its programming is directed toward a black audience, it features a variety of music, including jazz, reggae, rock, blues, soul and gospel. 'We have a wide audience, considering that our range is only four to eight miles,' said Jeanette Cotton, who has been the station's director since it was organized. She and development director Brian Allen were fired... Cotton said the station's perennial lack of funds is a key issue in the dispute..."

"The latest financial difficulties have come at a particularly opportune time. The station is scheduled to move into newly-renovated quarters next spring and increase its power to 1,000 watts. Allen said that a federal grant will cover part of the \$118,000 renovation, which includes some new equipment. But some of the cost will have to be covered by local funds and that adds to the financial crunch."

An article in "Electronic Media," Oct. 6, discussed the KRXV stations in CA's desert. These stations serve a community consisting mainly of commuters, and not residents in homes. Both stations are automated with automated and simultaneous programming, including their identifications—KRXV Yermo, near Barstow, and KXVR Mountain Pass—98.1 and 99.5, respectively, or "Stereo 98" and "Stereo 99," according to their nonIDs. Mountain Pass is no city, but suffices as a licensed location that I, as editor of this column and FM Atlas, have no trouble with. It is a situation similar to Mount Washington NH (a mountain) being city of license to WHOM 94.9, and Mount Timothy (a mountain)-100 Mile House (161 km house?), a milestone, being legitimate places of license for stations. The latter, of course, is for CFFM 5 99.7 in BC.

## KRXV-FM TRANSMITTER LOCATIONS



The transmitter sites are in "hell—the only way to describe them," says Howard Anderson, stations' president and chief operating officer. Each transmitter is said to cover a diameter of about 200 miles, from Cajon Pass in southern California on I-15 into Las Vegas. Anderson decided to start the stations after discovering there was no

radio reception in the Mojave Desert between Los Angeles and Las Vegas. He was also concerned that nobody was programming to the highway traffic. He had to persuade the FCC that the 28 million people traveling Interstates 15 and 40 each year between Los Angeles and Las Vegas constituted a "community" for programming a radio station to.

His market is said to include a highly desirable segment with about one-third of the advertising being national, with most local business from Las Vegas. He cites clients like the Desert Inn, Frontier, Caesars Palace, Circus Circus, Sands, the Sahara and the Hilton.

To get drivers to tune in the stations go heavily for outdoor advertising. "You see," he says, "we have zero audience loyalty, except for people who have been driving for two or three years and know we're there." He says the stations have to build a new audience ever three hours. Outdoor ads suggest to travelers that they take the "drag out of the drive," and the billboards are placed where the local FM and AM radio signals fade and the signals of his stations are dominant. "We are a link to reality," is his way of explaining the success of his desert stations, which he said began showing a profit in 1983. "That's why we do two news broadcasts every hour—because drivers need the sound of that human voice saying, 'Yeah, the world is still functioning out here in the desert.'"

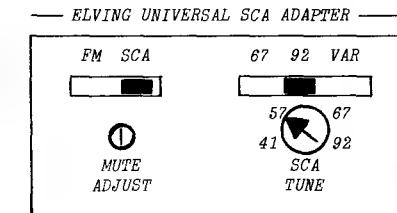
Frank Merrill writes to tell us that his reception of KMUN \*91.9 Astoria OR was mono. After some ownership changes and call letter shifts, WOW-AM-FM writes with an update:

**WOW**

59 Country      94 FM Country

615 North 90th Street • Omaha, Nebraska 68114

Their chief engineer is Percy Ziegler, who was chief engineer of former KYNN 94.1 and KYNN 14 AM. Nick Lombardi would like me to include fixed positions for the different SCA frequencies, so that you would know where the exact locations were. He offers the following drawing:



And he wants squelch in a low-voltage SCA circuit. Such will be available in Capri's soon-to-be-released 712 kit which John Ebeling and I tested. But it will only have hard-to-use pots and not neat switches like Nick suggested for changing SCA frequencies. He noted that I had some paper feed problems in the Nov. VUD, on my IBM Composer. Well, I adjusted the platen and think I have the problem largely solved. I sold the original IBM Composer I had, so have only the better-working of the two—no spare! "On page 124 of the Atlas, you indicate 105.5 is a class B/C frequency, but the powers listed would indicate otherwise!" it's an AJ. And WSIV 105.5 South Hill VA is 3000 watts, not 30000 watts (p. 124).

And here is some last-minute information he passes along: AL Fayette WHKW 98.1 Y network; GA Canton WCHC-FM 105.5 nonID FM 105 (from K-Country; still mono); GA Metter WHCG 104.9 Jewel-105 (not Country-105); GA Milan WMCG 104.9, 1 network, "Country-105." [WMCG mono?]

(Nick Lombardi, continued)

Atlas error: on page 40 in the mileage scale you indicated that 40 (instead of 50) miles equals 80 kilometers. It would be nice if the relationship really were that simple. I wonder if you've ever given any thought to listing the Pacifica Network. They produce a half-hour national news program which sounds remarkably similar to NPR's All Things Considered [the program airs 4:30-5:00 p. m. weekdays on VRFM 89.3].

Nick sent an article copied from the Radio-Electronics Annual (1984) on Blaupunkt's ARI system. "You will probably agree that the low frequency continuous 'Zone' tones are too low to be heard with most equipment, but the 125 Hz "Message ID" tone should be clearly audible. So, even though the tones are on a 57 kHz SCA subcarrier, I think; you should go ahead and list the stations (possibly as a +R). With your new tunable SCA adapters the 57 kHz should present no problem, especially if you follow my suggestions made about having commonly used SCA frequencies switch selectable. [I am not enthusiastic about listing a new service on a new frequency that nobody has even witnessed casually to find out how it sounds or how often it is activated, unless and until we have more experience with it. I am not even listing 92 kHz stations in any systematic way until I see how the medium develops, since only two stations in the entire country are known to have it. Several stations have told me they intend to start 92 kHz or to start paging, but until they actually do I will not mention them.]

Another article Nick sent is from the Nov., 1983, newsletter "New England Electronics Exchange," which nags broadcasters for even considering SCA. Seems the writers have outdated receiving equipment, because they allegedly hear birdies on WCRB 102.5 Waltham MA's main channel, supposedly caused by SCA. Still, the article should give pause to the moguls at National Public Radio who are pushing for all NPR stations to have a data SCA for profit at those outlets. I allege that data SCAs create more noise and potential for interference to the main channel than does talking or music SCAs. The article concludes: "Of course, NPR's recent excursion into bankruptcy may have slowed down this digital data venture, but in the long run it seems likely that many more FM listeners will have to learn to tolerate SCA interference in their stereo SCA sound."

From the Atlanta Journal-Constitution: "Add Gainesville to your radio dial." More music will be coming our way on the radio airwaves from Gainesville when WFOX's new transmitting tower on the Gwinnett County line becomes operational, probably in the spring. Shamrock Broadcasting's purchase of the top 40 station becomes official Dec. 9 and Shamrock recently won Federal Aviation Administration approval for a tower 2,649 feet above sea level (or 1890 feet above average terrain). This will give WFOX just as strong a signal in Atlanta as any of the local stations.

Shamrock hasn't said what the format will be, but speculation centers on either country or "hot hits" (teen rock). [I doubt that WFOX will come in as clearly as any other Atlanta station, but the signal over most of the city should be "primary," 60 dBu, but not an intensive city-grade, 70 dBu, that FCC rules require of stations licensed to the same city.] WWLT 106.7 Gainesville, "Lite-106," has filed for a similar antenna height increase, and expects to get the same tower height, if not the same tower structure.

WRAS \*88.5 Atlanta apparently has a power increase approved by the Georgia authorities to go from 19500 to 100,000 watts, but apparently the FCC has not yet approved this. Seems the Commission often goes slow on educational power increase requests until they know that funding is sure to come. Construction is expected to be completed by this summer, with the total price some \$300,000.

Another person interested in ARI is club member Robert Goodman, who says his interest in it would "be mainly as a DXer who'd like to know whether ARI has a 'signature' which could help in identifying a station."

WZIR 98.5 Niagara Falls NY is being sold to Porter Broadcasting Co., with on-air spots announcing this ownership change. Rumors have surfaced about a possible format change, with Dave Nieman promising to let us know what it is. Dave has lowered his Stereo Probe 9 to make room at the top for a 7-ft. UHF dish, indicating that he's getting more involved in TV DX.

Don Voegeli sent a Seattle area arts paper with radio programming information. Notably, it lists KMHD \*89.1 Gresham OR as on the air (and not on 88.5, where I had it listed previously), and does not list KRAM \*107.7 Seattle. KRAM may be off the air, since they are supposed to be sold and going commercial.

WOPR \*90.3 Oak Park MI features music/variety, monaural presumed, according to Paul L. Gaines. He sent a rather cute article from The Detroit News: "Your radio station says a lot about your values," by Jim McFarlin. The research firm of Reyner & Gersin Associates Inc. did its report for the NAB, with some of the principal findings being:

•Adult contemporary stations may be throwing their money away in maintaining high-priced personalities, when the fans for those stations were not star oriented.

•"New Wave" rock music cannot become a popular part of an AOR station's musical menu unless the station "sells" its audience on the sound.

•An advertiser has a better chance of having his/her commercial heard and understood on a "beautiful music" station than adult/News-talk stations must find air time for in-depth, investigative reporting, something few of them do now.

•There is a market for full-service stations like WJR (AM), which stress personality.

•Music aside, the two radio formats whose audiences most closely parallel each other are, amazingly, album-rock and nostalgia. The study saw many long-standing listener stereotypes crumble. For example, the basic album-rock fan is far from free-thinking, anti-establishment or liberal. AOR fans are psychologically conformists. Big band/nostalgia listeners believe they're every bit as "with it," not thinking of themselves as backward-looking people kindling old memories. They see themselves as "hipsters, as music aficionados." The study was not designed to help anybody program a radio station, but to recognize audience realities as they are.

**Contributors this month:** Lawrence Ausink, Yakima WA; Janet Bernhard, San Antonio TX; P. L. Boersma, Spring Lake MI; John Clark, Casco ME; Thomas V. Cornell, Greentown IN; David Cowan, Fairfax VA; F. S. Dombrowski, Jr., Milwaukee WI (who sent a long letter detailing his life, and the possibility of an eviction from his apartment). Also: Mike Dorner, Metairie LA; John Ebeling, Bloomington MN; Donald E. Erickson, Riverside CA (who reports an unfortunate flood this summer which caused some loss of inventory); Wendell Ford, Westerville OH; Paul L. Gaines, Detroit MI; Robert Goodman, Bronx NY; Robert Grant, Detroit MI; Bob Hempel, Manson IA; John M. Jefferson, Pleasanton CA; Jeff Kadet, Macomb IL (who is into TV Guide collecting); Cindy Kudes, Pittsburgh PA (a visually handicapped person who enjoys the GE Superadio, saying it's a good, all-purpose unit for her patients); Nick Lombardi, Atlanta GA; Frank Merrill, Toledo OH; George Milone, Lynn MA; Roy and Donna Moe, Grau's Rapids MI; Grey Monti, Arlington VA; David J. Nieman, Akron NY; R. J. O'Connor, FPO San Francisco CA; Walter Patton, Willowdale ON; Richard F. Perrin, Wells ME; Jim Pizzi, Livingston NM; Leslie Price, Wilmington NC; Keith Pugh, New Hope AL; Richard Reese, Jersey Shore PA; Don Voegeli, Seattle WA; Peter F. Wells, Ridge NH; Dr. Richard E. Wood, Abha, Saudi Arabia.

January, 1984

# NORTHERN FM-DX

Saul Chernos  
79 Ridge Drive  
Toronto Ontario  
CANADA M4T 1B6 (613)737-0585

JANUARY 1984

Report to NORTHERN FM DX if your FM DX is from: AK CT ID HA ME MD MA MT NE NH NJ NY ND OR PA RI SD VT WA WY CANADA and other countries. No deadline - send when you want to.

1984. Too bad George Orwell didn't live to see it. Will it mean a year of interesting DX or will our TVs start to watch us while we DX them? Happy New Year, folks!!!!

Ernest Cooper - 5 Anthony Street - Provincetown MA 02657

Rx: McIntosh MR-78 into an STA 52 Realistic, w/ double dipole antenna, soon to be replaced by a Finco directional w/ rotor motor.

I enjoyed both the WIFDA convention and the NRC one, and I look forward to next years'!!! I'm happy w/ my new McIntosh tuner & I'm anxious to get the Finco antenna erected so I can really see what it will do. I've had some success with the non-directional dipole, details & below. First though, I was hospitalized from Sept 18-27 after a strong angina attack, & now must undergo a cardio-catheterization at MA General Hospital on Nov 3, to determine what must be further done to alleviate it. I'm on light duty! but I can DX, & I can do my radio shows on WOMR 91.9, happily. (ED: I certainly hope things are going better; take care there, Ernie!) Now to DX:

SEPTEMBER:

28 Tr

WHOM 94.9 NH Mt. Washington w/out co-channel from lcl WSOX S. Yarmouth MA. I'd guess one or the other to be off frequency.

30 Tr

WEBI 92.1 ME Right at s-off at 0100 w/ WOMR lcl on and about  $\frac{1}{2}$  mile away w/ no slopover. WPIC 95.9 ME Saco k on AN sked 0120 - weakish.

WRDN 103.9 NY Riverhead r 0150 tried six times for QSL & got one finally.

WFAS 103.9 NY White Plains replaced WRDN at 0228 for few minutes.

WKXZ 93.9 NY Norwich in like lcl 103.2-1120 mr "Kicks-94" slogan.

WQVR 100.1 MA Southbridge k strong & steady 1130-1225.

WEZO 101.3 NY Rochester m broke thru WKCI for about 3 mins at 1230.

WKGC 101.3 ME Augusta k thru WKCI 1304 and a bit till 1400. - - - - -

OCTOBER

2 Tr

CBH 102.7 NS Halifax CBC \$ at s-off 0005, said return 0445. CIOO 100.1 NS Halifax r "C-100" great signal 0017-0057.

unID 92.1 CBC likely new Yarmouth NS at 0043 w/ s-off & call-freq. list of NS CBCs on AM & FM. Report sent to Halifax. (ED: Far as I can tell, yer right. Ernie, you've supplied a lot of QSL info here. How are your returns? One other DXer said 60%. Then again, postage is more reasonable in US. 32 & 35(toUS) cent postage killed part of the DX hobby for me, heh! I hope you'll support QSL corner. I've deleted mentions of reports sent, as I'm trying to keep to actual DX. If you send CJSB 540 rpt, I'll bug em...heard they ignored you)

3 Tr

WLHV 93.7 CT Hartford all SS & runs AN. ID: "la grande".

4 Tr

WCTO 94.3 NY Smithtown m 0216-42 very weak.

WWOC 94.3 NJ Avalon m fine signal 1115-35.

WAYV 95.1 NJ Atlantic City in&out r 1231-1357.

Locally, WKZE 104.7 sold & now WKPE "Cape-104". WHUE 100.7 now WKQV & still mb. WKPE still r. It seems the Tr season was short & is over for another year, giving me a chance to get my lcls QSLED. In closing, I want to say that Saul is doing a great job on this column, & I thank him & hope he will continue to serve WIFDA for years to come. It was great meeting you at Dunkirk, Saul. Now for some AM DX, I hope! Forward - March! Ernest. (likewise, it was a pleasure meeting you and all the folks at Dunkirk; thanx for the kind words, Ernie.)

Bill Gilbert - 26 Terrill Lane - Kings Park NY 11754 new reporter; welcome, Bill!!!!

This is my first report of FM DX: 88.1 WXBA NY Brentwood 1030, Sept 4, 1983, using a Realistic DX-55. - - - - -

Will close now as Xmas mail tends to be slow. Still on hand: 2 rpts by Dan Oetting I left in Toronto; here I got Arnold Lazarus' after a long delay at airport until I got there. Thanx for the tape of the pirate & your DX -- neat! A couple of others. Sorry so slow typing. seven trees, saul.

# QSL CORNER

FM 054

ON	CKSB-9	7	Fort Frances, 70RC French Network, P. O. Box 160, Winnipeg, R3C 2M0, signed by G. E. Drouin. Elving (notes Bruce to forget the freq.)
DC	WKYS	93.9	Washington, 4001 Nebraska Ave. N.W., 20016. QSL card signed by W. J. Standiford in 6 days. <span style="float: right;">Purdue</span>
LA	KTJZ	96.0	Alexandria, Box 7236, 71306. Memo in 10 days from Bill Lynch, GM, also send stickers & coverage-map. <span style="float: right;">George</span>
NJ	WLDF	'99:3	Atlantic City, 1825 Murray Ave., 08401. Letter from N.H. Rosenthal, CR in 1½ months. <span style="float: right;">Holbrook</span>
NY	WXBA	88.1	Brentwood, 1st & 4th Aves., 11717. Letter from Rob Ottone, Station manager, verified, 190 watts ERP. <span style="float: right;">Holbrook</span>
	WKRR	90.0	Brooklyn, 2001 Oriental Blvd. 11235. Letter from Christopher Toblin, General Manager. ERP of 8.6watts! <span style="float: right;">Holbrook</span>
NE	KEKL	106.7	Norfolk, Box 780, 68701. Typed letter from A. G. Wortmann, Tech. dir. enclosed hummer-stickers, coverage-map & 3-page history of WJAG-KEKL & profile. <span style="float: right;">Jefferson</span>
NC	WCPR	89.7	Raleigh, 4044 Old Wakeforrest Road, 27600. Letter from Jim Simpson, in 12 days, who says they got a report from Kearney, NE too! George
ON	WDMT	107.0	Newbury, Box 208, 44605. Card from Sam Garfield, CF, confirmed my report on back of my ham card! as it was send as souvenier, qsl in 2 months, with out sending return postage. <span style="float: right;">Ross</span>
TX	KPLX	99.5	Arlington, 411 Ryan Plaza Dr., 76011. (Not Ft. Worth address note) got typed letter on my report, & business card from David Briggs, Eng mgr. <span style="float: right;">Jefferson</span>
	KMFA	88.5	Austin, 3001 N. Lamar, suite 100, 78705. Letter in 13 days from John M. Eddins, Jr., station manager <span style="float: right;">George</span>
	KIXV	95.3	Brady, 117 South Blackburn, 76825. Memo from Ed Keeler, in 4 days! George



POST CARD  
FROM.

WRAF  
Toccoa Falls, GA 30554

To: CHRISTOPHER HANLEY  
P.O Box 15349  
WINSTON-SALEM NC

27/13

Reporters this time are: Bruce Elving of Kearney, NE; Ronald Pardue, of Bryon, MN; Charles George of Dallas, TX; Hank Holbrook of Chevy Chevy, MD; John W. Jefferson, Pleasonton, CA; Robert S. Ross of London, Ont. The above qsl-card is from Christopher Hanley of Winston-Salem, NC. He got WRAF-FM of Toccoa Falls, GA on 90.9mhz. qsl'ded in 9 days with sasn. Well, that's it for now. Keep yout reports coming in. (as you can tell, my typewriter is still messing up, so back in the shop it goes) Remember when reporting, please give all, thats ALL information you can. Give the call-sign, freq. or channel, city & state address the report was send to or that came back from, & zip code. Give name of varie-signer, and title. If you also like to say something about the qsl, she time in reply, and what was reply. Either a letter, card, etc. Rv now you should get the picture that I'm painting; give everything. 73's and thanks a whole lot.

Tom.

# SOUTHERN FM DX

Danny Buntin  
1312 N. Skyline  
Stillwater, OK 74075

DEADLINE: 10th

JANUARY 1984 \*\*Happy New DX Year!\*\*

1000+ MI. TR. GOODIES HIGHLIGHTS NEW MEXICO'S NOV., DEC. DRIVES

Jim Pizzi, P. O. Box 1778, Lovington, NM 88260 (505) 396-3251 MST - 11/2 to 12/2

11/2 tr		11/22 tr		515
1816 KIIC 92.5 OK OKC	0217 KSBJ 88.1 TX Humble, g			
1818 KZRS 98.9 OK OKC, calls + "99-FM"	0225 KTUS 90.9 TX Houston, tent			468
1820 KCFO 98.5 OK Tulsa, ads, g, "Love 98"	0228 KVIC 95.1 TX Victoria, ID			
11/9 MS	0237 KMX 106.7 AL Enterprise, r, AP nx	1040	in til	
1040 KXTR 96.5 MO Kansas City, c, tent.	at 0246, "KMX-Maximum Music Radio" in til			
11/10 tr	0300			
1057 KNMQ 105.9 NM Santa Fe, r, \$, "Q-106"	0248 KJQJ 106.9 TX Comroe			490
calls @100	0253 WIGC 105.7 AL Troy, tent, k			
1105 KNYN 95.5 NM Santa Fe, "The Canyon"	0259 KNQE 101.9 LA Monroe, ID			645
calls, r	0301 KYKK 105.7 TX Longview, ID			502
11/14 Es	11/26 tr			
1500 just starting on ch 2	0015 KNQE 101.9 LA Monroe			645
1548 WNKK 95.3 TN Clinton, k\$, "Kicks-95-FM"	0028 KHCB 105.7 TX Houston, 5			515
1550	0031 KIOC 106.1 TX Orange			595
1549 WKRX 96.7 NC Roxboro, \$, nx, wx, ads	0034 KSBJ 88.1 TX Humble, g			515
1600 WCOS? 97.9 SC? WPEC? "Carolina's Hott-	0035 WMAU 88.9 MS Bude, tent, c,no ID @0200			
est FM"	0037 KZBZ 95.1 TX Beaumont			574
1601 WQSM 98.1 NC Fayetteville, "Q-98", promo	0046 KHOO 99.9 TX Waco, calls			368
1603 WEYE 98.3 NC Thomasville, ad	0100 KTON 106.3 TX Belton, ID			368
1604 WRXX 98.7 NC Greensboro, nx	0131 KHOI 102.3 TX Merkel, ID @0237, promo	195		
1604 WSPA 98.9 SC Spartanburg, b, ads	0148 KAUN 102.9 LA Crowley			679
1605 WJZR 99.7 NC Kannapolis, tent, "Z-100"	0152 KJQJ 106.9 TX Comroe			490
1607 WUSY 100.7 FL Cleveland, WDSI-61 promo	0218 KORA 98.3 TX Bryan, k, ID			441
1609 WAHR 99.1 AL Huntsville, ID, r	11/29 MS			
1612 WEZC 104.7 NC Charlotte, ment.	1138 WGHL 98.1 FL Live Oak, tent. ment."N.			
Belmont, "EZ-104"	west FL blood bank"			
1613 WELP 103.9 SC Easley, tent, k	1630 WRAY 98.1 IN Princeton, "Your in	950		
1618 WANS 107.3 SC Anderson, calls	tune with WRAY Princeton, IN, your 24 hour.."			
1619 WLET 106.1 GA Toccoa, tent, r	11/30 Es			
1621 WSSL 100.5 SC Laurens, "Whistle FM"	1946 KLUU 88.9 CA L. A., tent, c			
1628 WLWI 92.3 AL Montgomery, calls	KCSB 91.9 CA Santa Barbara, tent			
1630 WCLA 107.1 GA Claxton, ID	KCRW 89.9 CA Santa Monica,tent.			
1631 WPAP 92.5 FL Panama City, calls	1952 KFKP 90.7 CA L. A.			
1631 NSB 98.5 GA Atlanta, 99-FM Atlanta 1098	1953 KCPB 91.1 CA Thousand Oaks, tent. c			
1633 WGNE 98.5 FL Panama City, wx, ads	1954 KPCC 89.3 CA Pasadena, tent. j			
1634 unID 99.7 east? ment. Oakland?	12/1 Es			
1635 WSCA 100.9 AL Union Springs	1830 unID 88.9 YUC, MX? XHY-3 in, not XHM 88.9			
1637 WGFC 104.5 GA Albany, b,ads	12/2 MS			
1639 WPFM 107.9 FL Panama City, ad, calls 1071	1050 WHKX 98.1 AL Fayette, "...Downtown	900		
1643 WVTY 106.3 FL Holiday, ads ment.	Fayette has something special..."			
Hernando, Pinellas and Pasco county	1054 WKQQ 98.1 KY Lexington, "...on 98	1103		
1647 WFUZ 93.7 FL Ocala, calls	double Q..."			
1652 WNFI 99.9 FL Palatka, "I-100"	Es			
1655 unID 106.7 east remote at Sears store	1424 RBFM 88.9 Radio Belize, in til 1528			
1659 WUSF 89.7 FL Tampa, ID	1428 XMFM@101.3 "FM Estereo", r			
1704 unID 96.5 east,store ad "Jefferson Ward"	1443 XHBT 98.5 YUC Merida, SS, ads and			
1711 WQJC 93.3 FL Tampa, WTNT-13 promo,	Merida tel. #			
calls	1448 XHGL 97.7 YUC Merida, SS			
1717 WCIE 91.1 FL Lakeland,ment. Lake-	1451 RBFM 101.1 tent.			
land	1554 unID 88.3 east, talk on being depressed			
FM Es gone by 1735	1600 WKCG 90.7 FL Panama City, tent., NPR			
11/17 MS	1600 WHIL 91.3 AL Mobile, ID @1601			936
1101 KGCI 96.5 NE Grand Island,	1601 WFSU 91.5 FL Tallahassee, tent., NPR			
"Country 96, Neb. news	1603 WGEA 93.5 AL Geneva, tent. k			
11/18 MS	1605 unID 94.5 east, "T-104,"Electric FM", r			
2025 WYCA 92.3 IN Hammond, tent. g, only	1607 WLRP 96.1 AL Mobile, tent., b			
g one 92.3 per FM Atlas---will try for	1608 WJAD 97.3 GA Bainbridge, ads			1116
positive ID	1609 WTBB 97.7 FL Bonifay, tent. r,			
11/22 tr!	"The Music Place FM97-7"			
0205 KLLS 100.3 TX San Antonio, ID	1610 WYKA 98.3 MS Quitman, tent., MS net.			
0216 KTCU 88.7 TX Ft. Worth, tent.	cont.....			

12/2 Es		12/2 Es
1612 WOOF	99.7 AL Dothan, ads	1067 1727 unID 89.3 east, g
1619 WEIZ	100.1 AL Phenix City, tent., r,	1728 unID 90.5 e.n.e., j
\$, "EZ-100"		1728 WMVV 90.7 CA McDonough, tent. g
1620 WHHY	101.9 AL Montgomery, ads, Y-102	990 1737 WCIC 91.5 IL Pekin, tent. g
1626 WNSI	102.9 MS Jackson, k, Miss-103	772 1743 unID 90.9 E.n.e., talk/phone in
1628 WBAM	98.9 AL Montgomery, ads, 99-FM	990 1744 unID 91.1 e.n.e., j
1636 WSB	98.5 GA Atlanta, ads	1098 1757 WJFM 93.7 MI Grand Rapids, ID 1170
1652 KEN?	99.9 ant. e. calls very faint	1758 WAJP 93.5 IL Joliet, wx, ID 1013
1654 RBFM	88.9 Belize, again til 1707	1800 WMBI 90.1 IL Chicago, wx 1040
1711 unID	88.7 east, r, EST time, "EZ-FM"??	1801 WQNC 89.1 IL Naperville, ID 1035
1725 WIBI	91.1 IL Carlinville, g, tent.	1804 WYCA 92.3 IN Hammond, promo, calls 1040
1725 unID	89.7 e.n.e., c	1808 WBGL 91.7 IL Champaign, tent. g
1726 unID	89.3 ?? antenna east, \$, L, SS	1809 unID 90.3 n. east, g

Well, November DX turned out well. I am surprised at the activity this late in the year. I've been concentrating on MS DX, but not much this month. Es on the 14th was summer-like with the MUF past 107.9. Signals were very strong and steady, too. 11-22 tropes was good. A lot of time spent on UHF but managed my first 1000+ mi. FM via tr. WKMX was very strong, female live DJ. KNCE was stronger into stereo. 105.7 with KYKX struggle with tent. WIGC, Oct. VUD article about capture ratio by Bruce Elving was thought of at this time. Probably would have IDed WIGC under KYKX, but I'll just have to wait for another duct.

On 12/2 missed the beginning of a real good Es opening, was at UPS sending off my JVC VT-900 for repairs again! (When will you wear it out? DB) Tuned into TV at 1418 and FM at 1424 on 88.9 to hear a female anncr. named Jackie Woods and "Radio Belize, FM-89". I'm confused; I don't know the city of license--help! Belize is on CST by the way. RBFM was heard for over an hour and reappeared for 13 mins. later on. Es then moved up north. November turned into a good DX month--lots of everything and December is starting with a bang. I hope it keeps up. (I hope it starts up here. DB) I also hope my VT-900 comes back soon then I have to send in Akai AT-VO4 to have station pre-sets(?)fixed. That section of tuner hasn't worked in a long while. VT-700 is now hooked to FM vert. while VT-900 digital is gone. That's it for now. Happy new year to all and the best of DX.

Danny Buntin, 1312 N. Skyline, Stillwater, OK 74075 CST

For a week in Nov. semi-local KCFO, Tulsa operated at reduced power to 5 kw from 100 kw due to a vandal shooting the transmission line. The resulting signal was sure weaker, and so I hung around on the frequency and managed to uncover a couple of items:

11-19 MS 11-26 tr  
0830 KIDX 98.5 MT Billings, calls 900 1012 KHYS 98.5 TX Port Arthur, ad, weak 480 It's been a DECADE already. This month marks 10 years of FM DXing for me. Reflecting back on how this strange obsession of mine originated lies with the purchase of my first stereo receiver, a rather indistinguishable Concord MK-12 in late 1973. I wasn't satisfied with the FM reception from the T-wire antenna(residing in one of the lowest lying parts of town didn't help)and switched to the household TV antenna recently abandoned to CATV. The results were good and for some unknown reason soon found myself fascinated with the behavior of the various, weak fringe signals. I observed with interest in the mid-afternoon how such signals were like underdogs, hardly listenable in mono, but often times come sundown and after they would fade less rapidly and increased in strength enough to be listenable in stereo for certain periods of time--an amazing phenomenon I thought. Before too long it was my good fortune to come across a copy of Communications World to discover this new found interest of mine could be turned into a hobby. The publication also told about WFTA, and I anxiously joined, desiring to learn how others commonly practiced the hobby and conform to it. On March 3, 1974 I experienced my first big trop opening, finding several Iowa stations. AFN of Waterloo was most impressive with its strong stereo signal from 515 miles away. On June 15, 1974 was my first encounter with Es, and thought it was much fun hearing from strange sounding, far away towns such as Horseheads, NY. And it was mighty impressive to me how the band was jammed up to 107.9, considering the band was much less crowded back in those days than now. Later on that summer, disenchantment with the Concord rx with its poor selectivity and vague tuning scale led me to spend many hours in the library studying the stereo magazines in search of better. I settled on the Pioneer TX-9100 tuner and will never forgot how awed I was by its fine performance over the Concord as I became acquainted with it. So 1974 was quite a year for getting initiated into FM DXing. In the next 10 years I look forward to keeping a healthy interest in the hobby as much as ever. I can still get quite a kick from hearing DX from someplace never heard of before such as last summer when Radio Belize came in clear. Mystified, I had to look up the whereabouts of that little country--now that's my favorite kind of DX after 10 years.

####



Fred Nordquist  
7945 Boxford Road  
Clay, NY 13041

January 1984

ALL TIME FM DISTANCE RECORDS														
FREQ.	PROP	CALL	LOCATION	MILES	EXER	LOC	FREQ.	PROP	CALL	LOCATION	MILES	DXER	LOC	
88.1	Es	WCRP PR	Guayama	2280	D.Bu	OK	90.9	Es	KCMW MO	Warrensburg	1524	J.Je	CA	
	Tr	WPVE IN	Elkhart	512	P.No	NY		Tr	KUNI IA	Cedar Falls	928	F.No	NY	
	MS	KXTX TX	Lubbock	1146	F.Me	OH		MS	CHX AT	Edmonton	1170	J.Je	CA	
	Au	WUTC TN	Chattanooga	661	D.Ni	NY		Au	KUNI IA	Cedar Falls	589	F.Me	ND	
88.3	Es	KSUC TX	Keene	1436	J.Je	CA	91.1	Es	JBC-2 Jam.Coopers	1950	J.Pi	NM		
	Tr	WHAM WI	Colfax	512	P.Me	ND		Tr	WFAM FL	Jacksonville	1020	G.Ha	TX	
	MS	WRBH LA	New Orleans	1109	D.Ni	NY		MS	KJSN MN	St. Paul	1114	G.Ha	TX	
	Au	WAER NY	Syracuse	670	A.Bo	IL		Au	WVUP IN	Vincennes	735	F.Me	ND	
88.4	Es	TGRT Guatemala	Quat	1150	G.Ha	TX	91.3	Es	WIPR PR	San Juan	1806	C.Ho	OH	
88.5	Es	KPLU WA	Tacoma	1519	D.Bu	OK		Tr	WTFS FL	Miami	1159	G.Ha	TX	
	Tr	WRAS GA	Atlanta	891	G.Ha	TX		MS	CKUA AT	Drumheller	1055	J.Je	CA	
	MS	WFDD NC	Winston-Sal	1164	G.Ha	TX		Au	WCNY NY	Syracuse	530	R.Br	MI	
	Au	WAMU DC	Washington	932	J.Eb	MN		Es	XHJC ECN	Mexicali	1462	J.Eb	MN	
88.7	Es	WERN WI	Madison	1752	J.Je	CA		Tr	WFSB FL	Tallahassee	735	R.Sa	TX	
	Tr	WSIE IL	Edwardsville	512	B.EL	MN		MS	WHDW WI	Suring	1213	G.Ha	TX	
	MS	WHA WI	Madison	1074	G.Ha	TX	91.7	Au	WRPI NY	Troy	512	F.Me	MI	
	Au	WHA WI	Madison	684	F.Me	ND		Es	KRSW MN	Worthington	1457	J.Pi	CA	
88.8	Es	TGRT Guatemala	Quat	1150	G.Ha	TX		Tr	KOSU OK	Stillwater	781	B.EL	MN	
								MS	KOSU OK	Stillwater	870	F.Me	ND	
								Au	KRSW MN	Worthington	861	D.Ni	NY	
88.9	Es	WEKU KY	Richmond	2020	J.Pi	CA	91.9	Es	WSIU IL	Carbondale	1748	J.Pi	CA	
	Tr	WMBW TN	Chattanooga	846	B.EL	NE		Tr	WSIU IL	Carbondale	789	G.Ha	TX	
	MS	WKES TN	Chattanooga	870	G.Ha	TX		MS	WHRM WI	Wausau	1012	R.Wo	LA	
	Au	WHEW TN	Chattanooga	745	F.No	NY		Au	WSIU IL	Carbondale	781	F.Me	ND	
89.0	Es	YSR1 ES	San Salvador	1243	P.Dy	TX	92.0	Es	XEBJ CD	Victoria, Tam	873	G.Ha	OK	
89.1	Es	CKRL PQ	Quebec	1453	B.EL	NE	92.1	Es	CKAJ AT	Calgary	1765	D.Ni	NY	
	Tr	KMUW KS	Wichita	683	B.EL	MN		Tr	CKY MB	Winnipeg	842	F.Me	MI	
	MS	KFAE WA	Richland	610	J.Je	CA		MS	WJGA GA	Jackson	929	S.Gr	IA	
	Au	KMUW KS	Wichita	651	R.Br	MI		Au	WYXE WI	Sun Prairie	260	A.Bo	IL	
89.2	Es	KXJT Tampico	Tams	974	G.Ha	OK	92.15	Es	CMBC Habana	Cuba	1299	G.Ha	OK	
89.3	Es	WDLM IL	E. Moline	1696	J.Je	CA	92.3	Es	WDBO FL	Orlando	1783	F.Me	ND	
	Tr	WPCS FL	Pensacola	808	R.Br	MI		Tr	WDBO FL	Orlando	1046	G.Ha	TX	
	MS	WHWK WI	Chilton	1162	G.Ha	TX		MS	WLHL AB	Montgomery	1064	J.Eb	MN	
	Au	WCAL MN	Northfield	712	S.Ch	ON	92.5		Au	KLIQ OR	Portland	1017	F.Me	ND
89.4	Es	TGD	Guat. Quetzalt	1183	G.Ha	TX		Es	WPAP FL	Panama City	1509	F.Me	ND	
89.5	Es	KENW NM	Portales	1473	D.Ni	NY		Tr	KYND TX	Pasadena	986	R.Br	MI	
	Tr	KENW NM	Portales	966	J.Ay	TN		MS	KAFM TX	Dallas	1466	J.Je	CA	
	MS	WNIU IL	DeKalb	1025	G.Ha	TX	92.7	Au	WMHE OH	Toledo	789	F.Me	ND	
	Au	WPKN CT	Bridgeport	798	A.Bo	IL		Es	WMCF FL	Stuart	1503	B.EL	MN	
89.6	Es	TGDX Guatemala	Quat	1150	G.Ha	TX		Tr	KJEF LA	Jennings	657	J.Pi	NM	
89.7	Es	* KXRA Jal.	Guadalajara	1506	A.Bo	IL		MS	WDWU WI	Waupaca	431	P.Sa	ON	
	Tr	WMCU FL	Miami	1159	G.Ha	TX	92.9	Au	KERK NE	O'Neill	425	F.Me	ND	
	MS	KGCC TX	Denison	1131	L.Vo	VA		Es	WSCD MN	Duluth	1644	J.Je	CA	
	Au	WGHH MA	Boston	914	A.Bo	IL		Tr	WZGC GA	Atlanta	891	G.Ha	TX	
89.9	Es	WJCT FL	Jacksonville	1629	F.Me	ND		MS	KITY TX	San Antonio	1251	C.Ho	OH	
	Tr	WJCT FL	Jacksonville	1020	G.Ha	TX		Au	WVNY VT	Burlington	841	A.Bo	IL	
	MS	WHSIA WI	Brule	905	L.Vo	VA	93.1	Es	KAMA TX	El Paso	1804	N.Di	MD	
	Au	WHSIA WI	Brule	496	F.Me	MI		Tr	WDDS NY	Syracuse	822	B.EL	MN	
90.0	Es	YSU ES	San Salvador	1248	G.Ha	TX		MS	KEBB SD	Sturgis	1183	R.Wo	LA	
90.1	Es	KSJR MN	Collegeville	1519	J.Je	CA		Au	WDRQ MI	Detroit	561	J.Eb	MM	
	Tr	KPFT TX	Houston	848	J.Co	FL	93.2	Es	XHQZ NL	Monterrey	1385	R.Br	MI	
	MS	WMBI IL	Chicago	1058	G.Ha	TX		Tr	XHQZ NL	Monterrey	281	G.Ha	TX	
	Au	KXED TX	Collegeville	766	S.Ch	ON	93.3	Es	KTFN OK	Ada	1454	R.St	MA	
90.3	Es	KXED TX	Corpus Chris	1598	F.Me	NY		Tr	WLAL FL	Tampa	988	G.Ha	TX	
	Tr	WHLA WI	Holmen	812	L.Vo	VA		MS	KYKR TX	Port Arthur	1195	P.Sa	ON	
	MS	WHLA WI	Holmen	1083	G.Ha	TX		Au	WB3W OH	Youngstown	689	J.Eb	MN	
	Au	WBCL IN	Ft. Wayne	704	F.Me	ND	93.5	Es	KLKC KS	Parsons	1459	J.Je	CA	
90.5	Es	R.Jamaica-Spur Tree	1950	J.Pi	NM			Tr	KRFG MO	Greenfield	623	F.Me	OR	
	Tr	WKAR MI	E. Lansing	931	R.Wo	LA		MS	WJHT MS	Clinton	937	P.Sa	ON	
	MS	KXCV MO	Maryville	985	F.No	NY		Au	WLII WI	New London	339	A.Bo	IL	
	Au	CBXH NS	Halifax	1026	F.Me	OH	93.7	Es	WJIT PR	San Juan	2263	R.Co	OK	
90.7	Es	KOPB MO	Joplin	1509	J.Je	CA		Tr	KBNR TX	Houston	1104	C.Ho	OH	
	Tr	KVNO NE	Omaha	902	D.Ni	NY		MS	WCCM MA	Lawrence	1501	R.Co	OK	
	MS	WHAD WI	Delafield	903	W.Bi	FL		Au	KWYR SD	Winner	642	A.Bo	IL	
	Au	KWNU MO	St. Louis	850	J.Fe	NJ								

## FM STATISTICS

## ALLTIME FM DISTANCE RECORDS

January 1984

FREQ	PROP	CALL	LOCATION	MILES	DXR	LOC	FREQ	PROP	CALL	LOCATION	MILES	DXR	LOC			
93.9	Es	KRNA	IA Iowa City	1657	J.Je	CA<	97.1	Es	KDZW	MN Crookston	1451	J.Je	CA<			
Tr	WBUS	FL Miami Beach	1163	G.Ha	TX	Tr	WEZB	LA New Orleans	863	R.Br	MI	Au	None			
MS	WWNL	FL Miami Beach	1306	S.Ch	ON	MS	KWEH	AR Camden	1076	S.Ch	ON	MS	KRBE TX Houston			
AU	KKLS	SD Rapid City	838	A.Bo	IL	Au	WCCW	WI Sparta	591	F.Mc	ND	104.1	Ea	KRBE TX Houston		
94.0	Es	XET	NL Monterrey	1382	J.Eb	MN	97.3	Es	WIOD	FL Miami	1596	B.El	MN<	985	R.Br	MI
94.1	Es	KCLK	WA Clarkston	1695	T.EI	KY	Tr	KEEZ	TX San Antonio	1103	R.Br	MI	692	F.Mc	ND	
Tr	KEQZ	AR Little Rock	1043	F.No	NY	MS	KBUF	KS Garden City	1240	S.Ch	ON	1743	F.Mc	ND		
MS	KPBO	TX Beaumont	1192	P.Sa	ON	Au	KDMI	IA Des Moines	782	S.Ch	ON	799	J.Ay	TN		
Au	KCKN	KS Kansas City	881	D.Ni	NY	97.5	Es	KINT	TX El Paso	1670	R.Se	NY	1260	G.Ha	OK	
94.3	Es	KVFM	CA San Fernando	1510	D.Mo	IA	Tr	WPCH	FL Winter Haven	1022	P.Dy	TX	104.3	Ea	WIKY IN Evansville	
Tr	WGWM	FL Riviera Beach	1148	G.Ha	TX	MS	KINT	TX El Paso	1160	A.Bo	IL	MS	WLAG GA La Grange			
MS	WUUU	TR Oak Ridge	1221	F.Mc	ND	Au	WNCG	NY Watertown	703	B.El	IL	104.5	Es	WEAT FL W. Palm Beach		
Au	CFLA	MB Winnipeg	743	R.Br	MI	97.7	Es	CBUF	BC Vancouver	1526	J.Pi	NM	Tr	WWST OH Wooster		
94.5	Es	WCVU	FL Naples	1657	F.Mc	ND	Tr	XHGL	Merida, Yucatan	733	W.Bi	FL	1506	J.Pi	CA<	
Tr	KSLM	LA Lafayette	876	R.Br	MI	MS	WVOP	GA Vidalia	829	F.No	NY	104.7	Es	WRBQ FL Tampa		
MS	KROK	LA Shreveport	1046	P.Sa	ON	Au	CHOM	PQ Montreal	686	R.Br	MI	1428	G.Ha	TX		
Au	WRVQ	VA Richmond	755	R.Br	MI	97.9	Es	XETIA	Guadalajara, Jal	2066	R.Se	NY	724	N.Di	MD	
94.7	Es	KTTM	MO Springfield	1569	J.Je	CA<	Tr	WJNO	FL Palm Beach	1152	G.Ha	TX	104.6	Es	WQAD MN Luverne	
Tr	KTTM	MO Springfield	663	B.El	MN<	MS	WNCI	OH Columbus	1080	F.Mc	ND	1827	R.Br	MI		
MS	WKKI	MS Jackson	1073	F.No	NYC	98.1	Es	WTOW	OH Canton	2050	F.Ad	OR	986	R.Br	MI	
Au	WPTF	NC Raleigh	512	F.Mo	MI	Tr	KSLQ	MO St. Louis	873	F.Mc	ND	104.8	S.Ch	ON		
94.8	Es	TDGX	Guatemala, Guat.	1150	G.Ha	TX	MS	WLEY	KY Lexington	1108	F.Mc	ND	1193	S.Ch	ON	
94.9	Es	WINZ	FL Miami Beach	1948	F.Mc	ND	Au	KUDL	MO Kansas City	549	R.Mc	ND	843	S.Ch	ON	
Tr	WOCN	FL Miami Beach	1163	G.Ha	TX	98.3	Es	CFLY	ON Kingston	1646	J.Pi	NM	1492	F.Mc	ND	
MS	WPCH	GA Decatur	1342	F.Mc	ND	Tr	CBW	MB Winnipeg	842	A.Bo	IL	683	B.El	MN<		
Au	KFMG	IA Des Moines	600	F.Mc	ND	MS	KARB	UT Price	613	J.Je	CA<	716	S.Ch	ON		
95.0	Es	ZFB	Hamilton, Bermuda	1378	R.Br	MI	Au	KCLC	ON Kingston	684	A.Bo	IL	104.9	Es	WEZO NY Rochester	
95.1	Es	KRDO	CO Colorado Spgs	1486	L.Vo	VA	98.5	Es	KPAC	TX Port Arthur	1650	R.Wo	AT	1533	F.Mc	ND
Tr	WJAN	FL Jacksonville	1020	G.Ha	TX	Tr	KLAZ	AR Little Rock	1176	M.Bu	CT	104.9	Es	WQES FL St. Petersburg		
MS	WLST	WI Marinette	1146	R.Sa	TX	MS	WDUZ	WI Green Bay	1148	J.Pi	NM	1159	G.Ha	TX		
Au	KICT	KS Wichita	651	R.Br	MI	Au	WSB	GA Atlanta	588	R.Br	MI	758	S.Wo	PA		
95.3	Es	WPVA	VA Petersburg	1439	F.Mc	ND	98.6	Es	TCHR	Guatemala, Guat.	1218	R.Se	TX	105.1	Es	KPFI MO St. Joseph
Tr	WTLN	FL Apopka	1038	G.Ha	TX	Tr	XTKW	TX Victoria	1530	F.No	NY	105.2	Es	WQES FL St. Petersburg		
MS	None		98.7	Es	WTOP	IL Hopkinsville	725	B.El	MN<	105.3	Es	WQLB FL Coral Gables				
Au	CKDS	ON Hamilton	378	S.Re	CT	MS	WMDM	NC Greensboro	1005	G.Ha	OK	1147	R.Br	MI		
95.4	Tr	XHOX	Tampico, Tams	503	G.Ha	TX	Au	WFPG	MI Detroit	536	M.Bu	CT	1147	R.Sa	TX	
95.5	Es	WOWV	FL Ft. Pierce	1619	F.Mc	ND	98.9	Es	WPMI	AL Montgomery	1357	F.Mc	ND	105.4	Es	WQME NY Salem
Tr	KOKE	TX Austin	864	W.Bi	FL	Tr	WZOP	IL Tallahassee	856	P.Dy	TX	105.5	Es	WDEN GA Macon		
MS	KDCK	KS Dodge City	1195	J.Je	CA<	MS	KRQY	CO Pueblo	1038	R.St	IN	105.6	Es	WDAS PA Philadelphia		
Au	WHPX	NC High Point	604	S.Ch	ON	Tr	WZSP	SC Spartanburg	552	R.Br	MI	1430	F.Mc	ND		
95.7	Es	KEZJ	ID Twin Falls	1824	D.Mi	NY	99.1	Es	KKEZ	MN Mankato	1523	J.Je	CA<	1576	F.Mc	ND
Tr	KXXA	AR Little Rock	1043	F.No	NY	Tr	KODA	TX Houston	1104	C.Ho	OH	1576	C.Ho	OH		
MS	KKAJ	OK Ardmore	1177	D.Ni	NY	MS	WQKJ	IL Jacksonville	1187	J.Eb	MN	905	S.Ch	ON		
Au	WPTW	OH Picqua	467	F.Mo	NY	Au	KGVM	ID Idaho Falls	608	F.Mc	ND	849	F.Mc	ND		
95.9	Es	KDHL	MN Faribault	1561	J.Je	CA<	99.3	Es	CFOK	BC Vancouver	1526	J.Pi	NM	105.7	Es	WQRL IL New Port Rich
Tr	KRSL	KS Russell	652	G.Ha	TX	Tr	WEZY	IL Cocco	1087	G.Ha	TX	1506	J.Pi	CA<		
MS	CJFM	PQ Montreal	852	A.Bo	IL	MS	WMFC	AL Monroeville	975	J.Eb	MN	105.8	Es	WQXZ TX Sparta		
Au	KDHL	MN Faribault	477	F.Mc	ND	Au	WAWB	TN Crossville	298	A.Bo	IL	105.9	Es	WQZT TX Oklahoma		
96.1	Es	CKO-FM	BC Vancouver	1526	J.Pi	NM	99.5	Es	WDMG	GA Douglas	2260	J.Je	CA<	1506	R.Br	MI
Tr	WKTZ	FL Jacksonville	1020	G.Ha	TX	Tr	WQYX	FL St. Petersburg	982	G.Ha	TX	1506	R.Br	MI		
MS	KMFC	UT Provo	1047	G.Ha	TX	MS	WGAY	DC Washington	1382	F.Mc	ND	1506	R.Br	MI		
Au	WHLG	GA Atlanta	588	R.Br	MI	Au	WKDQ	KY Henderson	567	J.Eb	MN	1506	R.Br	MI		
96.3	Es	WHEM	IL Chicago	1842	J.Je	CA<	99.7	Es	WOOF	Dothan	1454	F.Mc	ND	1506	R.Br	MI
Tr	WHDJ	FL Columbus	659	B.El	MN<	Tr	WMC	TN Memphis	928	F.No	NY	1506	R.Br	MI		
MS	WMYQ	FL Miami	1056	A.Bo	IL	MS	WMNI	OH Columbus	1080	F.Mc	ND	1506	R.Br	MI		
Au	WJRW	MI Detroit	561	J.Eb	MN	Au	WMC	TN Memphis	591	F.Mc	MI	1506	R.Br	MI		
96.5	Es	WHDJ	PR Fajardo	1998	A.Bo	IL	99.9	Es	KTSM	TX El Paso	1670	R.Se	NY	1506	R.Br	MI
Tr	KIQU	TX Corpus Christi	967	A.Bo	IL	Tr	KROB	TX Robstown	1175	R.Br	MI	1506	R.Br	MI		
MS	KIQU	TX Corpus Christi	1166	R.Br	MI	MS	KTQM	NM Clovis	1069	J.Je	CA<	1506	R.Br	MI		
Au	WTIC	CT Hartford	565	F.Mc	MI	Au	KFAB	NE Omaha	554	F.Mc	ND	1506	R.Br	MI		
96.7	Es	CKGL	ON Kitchener	1438	J.Pi	NY	100.1	Es	WIVE	VA Ashland	1412	F.Mc	ND	1506	R.Br	MI
Tr	WFOB	OH Fostoria	581	B.El	MN<	Tr	WJME	GA Forsyth	596	F.Mc	OH	1506	R.Br	MI		
MS	None		100.3	Es	CBRX	AT Lethbridge	938	J.Je	CA	1506	R.Br	MI	1506	R.Br	MI	
Au	JJOL	IL Joliet	347	J.Eb	MN	Au	WIVE	VA Ashland	564	R.Br	MI	1506	R.Br	MI		
96.9	Es	KVMV	TX McAllen	1463	B.El	MN<	Tr	WJMW	PA Meadville	1501	F.Mc	ND	1506	R.Br	MI	
Tr	WINK	FL Fort Myers	1041	G.Ha	TX	MS	KBOX	TX Dallas	1098	F.Mc	ND	1506	R.Br	MI		
MS	WLAV	MI Grand Rapids	792	G.Ha	OK	Au	WZEN	IL Alton	712	S.Ch	ON	1506	R.Br	MI		
Au	WFPY	NJ Atlantic City	705	S.To	IN							1506	R.Br	MI		

## FM STATISTICS

## ALLTIME FM DISTANCE RECORDS

FREQ	PROP	CALL	LOCATION	MILES	DXER	LOC	FREQ	PROP	CALL	LOCATION	MILES	DXER	LOC			
100.5	Es	WCMS	VA Norfolk	1513	F.Mc	ND	103.9	Es	WEAT	FL W. Palm Beach	1895	F.Mc	ND			
Tr	WEAI	IL Jacksonville	811	F.Mc	ND	Au	None									
MS	WKEE	WV Huntington	856	G.Ha	OK	104.1	Es	KRBE	TX Houston	1506	J.Pi	CA<				
Au	WWKI	IN Kokomo	692	F.Mc	ND	Tr	KRBE	TX Houston	985	R.Br	MI	985	R.Br	MI		
100.7	Es	WDAE	FL Tampa	1743	F.Mc	ND	Tr	WLAG	GA La Grange	559	J.Eb	MN	1021	R.Br	MI	
Tr	KORQ	TX Abilene	799	J.Ay	TN	Au	WIKY	IN Evansville	1021	R.Br	MI	1021	R.Br	MI		
MS	WMJR	FL Lauderdale	1260	G.Ha	OK	104.3	Es	WTCR	NC Tarboro	1485	J.Pi	NM	1485	J.Pi	NM	
Au	KSRS	TX Lubbock	1301	N.Di	MD	Tr	WEAT	FL W. Palm Beach	1895	F.Mc	ND	1895	F.Mc	ND		
100.9	Es	KSOS	AL Union Springs	724	F.Mc	ND	104.5	Es	WWST	OH Wooster	654	B.El	MN	654	B.El	MN
Tr	None						104.6	Es	WWST	OH Wooster	654	B.El	MN	654	B.El	MN
101.1	Es	CRMI	BC New Westmins	1827	R.Br	MI	104.7	Es	WWST	OH Wooster	659	J.Eb	MN	659	J.Eb	MN
Tr	KLQL	TX Houston	986	R.Br	MI	Au	None									
MS	WNOE	LA New Orleans	1193	S.Ch	ON	104.7	Es	WRBQ	FL Tampa	2290	J.Pi	CA<	2290	J.Pi	CA<	
Au	WMZU	MO Carrollton	843	S.Ch	ON	104.8	Es	WRBQ	FL Tampa	979	P.Dy	TX	979	P.Dy	TX	
101.3	Es	WVHE	VA Hampton	1492	F.Mc	ND	104.9	Es	WNOE	LA New Orleans	898	S.Ch	ON	898	S.Ch	ON
Tr	KFDI	KS Wichita	683	B.El	MN<	Au	KIOW	SD Sioux Falls	524	A.Bo	IL	105.0	A.Bo	IL		
MS	KWBM	MN Richfield	716	S.Ch	ON	104.9	Es	KSMI	LA Donaldsville	1375	F.Mc	ND	1375	F.Mc	ND	
Au	WEZO	NY Rochester	1202	F.Mc	ND	Tr	WNRE	OH Circleville	677	B.El	MN	105.1	B.El	MN		
101.5	Es	WZSP	FL St. Petersburg	1533	F.Mc	ND	105.2	Es	WZSP	FL St. Petersburg	1123	F.Mc	ND	1123	F.Mc	ND
Tr	WZSP	FL St. Petersburg	1414	B.El	MN	MS	WLAC	IL Nashville	1123	F.Mc	ND	1123	F.Mc	ND		
MS	WBEN	NY Buffalo	1101	R.Wo	LA	Au	WBEN	NY Buffalo	696	J.Eb	MN	696	J.Eb	MN		
Au	KGIC	MN Willmar	801	S.Ch	ON	106.1	Es	WKPO	MD Cumberland	1445	J.Pi	NM	1445	J.Pi	NM	
102.1	Es	WNL	LA New Orleans	905	C.Ho	OH	Tr	WVNO	WY Mansfield	653	B.El	MN	653	B.El</		

## FM STATISTICS

ALLTIME FM DISTANCE RECORDS			January 1984	
FREQ	PROP	CALL LOCATION	MILES	DXR, LOC
107.5 Es	WBYO PA	Boyertown	1506	G.Ha TX 107.7 MS
Tr	WDWQ SC	St. George	999	Bu OK Au KXSS MO St. Louis
MS	KNOX TX	Ft. Worth	1298	S.Ch ON 107.9 Es WWEL MA Medford
Au	KPPL CO	Lakewood	699	J.Eb MN Tr WIRK FL W. Palm Beach
Es	WGNA NY	Albany	1656	P.Dy TX MS WBT NC Charlotte
Tr	WNCT NC	Greenville	899	R.Le LA Au WAUR IL Aurora

## CANADA STATS

Prov.	#-DXer	#-DXer
AT	18-jj	15-jp*
BC	17-jj	5-fm
MB	15-fm	9-fm*
NB	3-fm	1-fm*
NF	9-fm	6-dn
NS	8-sc	3-jf
ON	73-dn	68-sc
PEI	2-jf	1-do
PQ	19-fm	18-wh*
SA	8-fm	5-sc

## MEXICO STATS

State	#-DXer	#-DXer	State	#-DXer	#-DXer
AGU	1-jp*	1-jp*	PUE	4-tm	4-jp*
BCH	10-fm	9-jp	SIN	2-jj	1-dn
CHI	6-jp*	6-fm	SLP	2-tm	
CQA	6-jp	2-je	SOW	1-fm	1-db/jj
DF	21-tm	21-jp*	TAB	2-tm	
GTO	7-jp*	2-tm	TAM	2-je	1-jp/fm*
JAL	12-tm	9-ve	VER	5-tm	4-jp*
MIC	1-jp*		TUC	1-ja	

## OTHER FOREIGN STATS

Ctry	#-DXer
Cuba	1-ks/jf/fn
Bermuda	2-fn 1-dn
Guatemala	1-ks
Jamaica	2-jp* 1-tm
Puerto Rico	1-dn/jf

## STATES STATS

State	#-DXer	#-DXer	State	#-DXer	#-DXer	State	#-DXer	#-DXer
AL	65-dod	54-tm	IN	145-rs	112-deb	NE	40-jj	23-fn
AK	11-jj*		IA	90-je	69-be	NV	15-fm	14-db
AZ	29-fm	26-db	KS	66-db	44-fn	NH	20-rjs	6-db
AR	61-ve	45-tm	KY	67-rs	33-deb	NJ	57-jf	55-res
CA	245-jj	102-fm	LA	53-rls	45-be	NM	32-jj	31-fm
CO	53-jj	44-tm	ME	29-rjs	9-je	NY	155-fn	132-jz
CT	43-mb	34-jf	MD	38-do	37-jf	NC	66-be	63-db
DE	11-sw	10-do	MA	84-rjs	67-mb	ND	22-fm	18-fm*
FL	122-db	84-fn	MI	139-fm	114-rs	OH	180-rs	127-fm
GA	52-db	52-be	MN	116-je	103-be	OK	82-db	40-fn
HI	None		MS	64-tm	36-fn	OR	23-jp*	18-fm
ID	22-db	13-rls	MO	73-db	44-fn	PA	121-dn	94-jz
IL	148-rs	115-be	MT	19-jp*	15-jj	RI	11-rjs	8-mbt
						DC	13-sw/dn/ja/do	

## KEY TO STATS/ALLTIME FM DISTANCE RECORD HOLDERS' INITIALS

STATS	DIST	DXer	DXer Location	STATS	DIST	DXer	DXer Location
ja	F.Ad Frank Aden	OR Bend	tm Tim McVey				TN Bolivar
	J.Ay Jim Ayers	TN Murfreesboro	fm F.Mc Fred McCormack				ND Des Lacs
	W.Bi Waldo Bishop	FL Tallahassee	fm* F.Mc Fred McCormack				ND Fargo
	A.Ba Andy Bolin	IL Charleston	fm F.Mc Frank Merrill				OH Toledo
	R.Bi Russ Brown	MI St. Joseph	fm F.Mc Frank Merrill				MI Milan
deb	Dave Brumfield	IN Muncie	am Alan Michalek				MA Springfield
mb	M.Bi Mike Bugaj	CT Enfield	dmo Dennis Moe				IA Ansgar
db	D.Bi Danny Buntin	OK Stillwater	din David Nieman				NY Akron
sc	S.Ch Saul Chernos	CM Burnt River	fn F.Mc Fred Nordquist				NY Clay
	J.Co John Combs	FL Orlando	dod F.Mc Fred Nordquist				NY N. Syracuse
	E.Co Robert Cooper	OK Oklahoma City	do David O'Dell				AR Little Rock
	N.Di Neil Dickerson	ND Sharptown	do Daniel Oetting				PA Broome
	P.Dy Pat Dyer	TX San Antonio	jp J.Pi Jim Pissi				CA Ornt
ve	Vernon Eaton	AR Benton	jp J.Pi Jim Pissi				CA Santa Maria
je	J.Eb John Ebeling	MN Bloomington	jp* J.Pi Jim Pissi				NM Lovington
	J.Eb John Ebeling	MN Prost	rls S.Re Shelby Remington				CT New Haven
	B.El Bruce Elving	MN Adolf	rls R.Sa Rick L. Sanford				TX Burnett
be	B.El Bruce Elving	MN Duluth	rs P.Sa Peter Sawatsky				ON Waterloo
fj	J.Fe Joseph Fala	NJ S. Plainfield	res R.E. Schweitzer				NJ E. Brunswick
	T.Fi Ted Fleisacker	KY Louisville	re Robert Seybold				NY Dunkirk
	S.Gr Stu Grade	IA Sioux City	ks Ken Simon				IL Lake Worth
	G.Ha Glenn Hauser	OK Enid	js Joseph Smith				NY Johnson City
	G.Ha Glenn Hauser	TX Von Ormy	rs R.St Ralph Strobel				IN Muncie
wh*	Wm Hepburn	CN Cornwall	rjs R.St R. Steinberger				MA Hudson
	C.Ho Carlton Howington	OH Uniontown	to Steve Toffe				IN Vincennes
jj*	John Jefferson	AK Anchorage	lv Larry Vogt				VA Springfield
jj	J.Je John Jefferson	CA Concord	sw Steve West				PA Havertown
	J.Je John Jefferson	CA Pleasanton	rw Richard Wood				AT Medicine Hat
	R.Le Ron LeBlanc	LA Marrero	rw Richard Wood				LA Baton Rouge

All FM distance records were recalibrated using the great circle distance formula that I programmed on my new \$57 TI-99/4A computer. No more map errors! 73---Fred

## VHF UTILITY DX

Donald L. Blevins  
1657 Essextown Circle  
Baltimore, MD 21221  
phone: 301-391-3408

VHF UTILITY DX This month's feature is designed to coincide with the onset of winter weather and the increasing demands cooler temperatures makes upon your public utilities. With high winds and freezing temperatures the most modern public utility is subject to breakdowns, and as such, a flurry of radio activity can be noted.

Many commercial endeavors require a diverse radio network, and in keeping with the specialized interests of these services and the interest of public in general, the Federal Communications Commission has allocated blocks of frequencies for these specific services. The topic of this month's feature is the Public Utility Spectrum.

Public utilities, because of the sensitive nature of maintaining these vital services for the support of life as we know it, need a diverse, flexible radio network in order to dispatch, in an untimely manner, service vehicles to the scene of any number of different emergencies that may occur in the distribution of water, gas, and electric.

Baltimore Gas & Electric(BG&E), for example, provides a 24 hour service for the repair of the appliances they sell, and a 24 hour emergency service to stop gas leaks. In addition, BG&E sells service contracts for maintenance of gas appliances, such as water heaters and gas furnaces.

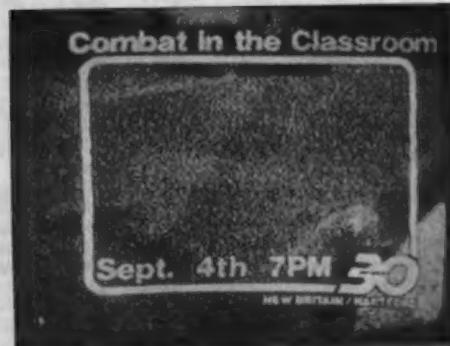
BG&E also maintains street lighting, and provides 24 hour a day emergency service to correct power outages. Considering the diverse services this large utility provides over a large geographic area, it's not hard to imagine why such a large number of frequencies are used.

## BALTIMORE GAS &amp; ELECTRIC COMPANY

Electric Trouble	153.605
Gas Trouble	153.44 North & East
Gas Trouble	153.575 West & South
Commercial Service	451.10
Overhead	48.22
Gas Construction	37.70 Meter Test
-Atlantic Electric	47.98 48.38 48.12
Potomac Edison	158.25 (Frederick & Hagerstown)
Washington Suburban Sanitary Commission	48.38 (Water for DC Metro Area)
Conowingo Electric	37.64 37.78 (Northeastern Harford County)
Potomac Electric Light	451.125 451.15 451.025 451.05 451.075
Delmarva Power & Light	37.62 37.76 48.30 48.24
Piedmont Natural Gas	47.88 48.52
Ohio Valley Electric Corp	37.70
Florida Power & Light	37.70 37.74 37.82 37.86
Central Maine Power Company	47.72 47.86 48.10
West Penn Power Company	47.90 48.02 48.04 48.06
	48.08 48.10 48.20
South Carolina Electric & Gas	37.58 37.86
East Kentucky Power Co-op	37.64 37.80
Wisconsin Electric Power	37.54
Metro Edison	37.50 37.52 37.54 37.56
Long Island Lighting	158.16 158.175 158.22 158.235

Mike Reid  
109 Arjay Cres.  
North York, Ont. M2L 1C6  
CANADA

This month, four of the photos below are ones that the sender requested appear because they consider them special. They are the ones from Paul Gaines and Nate Ely. Also, a translator pic from Jim Pizzi for this, my last column. Send your photos in future to Dave Nieman at the address on the back cover. Correction- KAMU-15 was seen by Jim Pizzi, not Paul Gaines as indicated in Dec.



WDLI-17 Canton, OH (NE)  
0200 Aug. 24/83 420 mi.Tr



WPTV-22 Pittsburgh, PA (NE)  
0029 Aug. 21/83 505 mi Tr



KTEW-2 Tulsa, OK  
0617 Jan. 12/80 795 mi. MS (OP)  
He says local WJHK-2 came on at  
0618.

K30AE-30 Alva, OK (KETA-13)  
370 mi. Tr June 20/83 (JP)

JP-Jim Pizzi, NY

NE-Nate Ely, WI

OP-Paul Gaines, MI

73's Mike



## FEEDBACK

LOG TOTALS AND  
DX REPORTS---  
THE MEMBERSHIP DECIDES

About two years ago, when I was the VUD Editor-in-Chief, I started to receive correspondence from WTFDAers who seemed a bit preoccupied with the subject of DXers' station counts (or log totals as they are more commonly called) appearing along with their DX reports. Most of those letters seemed to be making a common point: "...putting one's log totals in a DX report serves to confuse and maybe even intimidate the new members and the novice TV/FM DXers," in the words of one VUD reader who says he likes to DX many different bands. Eventually, I was receiving letters from what amounts to a small "lobby" in favor of instituting a definite club policy on the matter.

Their arguments may be summed up rather well by this comment made recently to club H.Q. by one of our most proficient FM DXers: "As a DXer for over 30 years, I have noticed that some individuals seem to place too much emphasis on totals. Totals only serve to feed one's ego when listed in the monthly reports. The Statistics column(s) should be the only place for members totals." Additionally, one relative newcomer to WTFDA felt that "TV and FM STATISTICS would have better support if you stopped running the members' log totals with their DX reports. These are just trivial to me, and tell me nothing about current DX conditions or station news."

After I gave up editing the VUD and took over as club publisher, I started to again receive quite a bit of "flak" for "not doing anything to end the station totals confusion in the VUD," in the words of an ex-WTFDA member. Again hearing from some members about the matter at last year's WTFDA convention, I started to believe we had a genuine consensus of opinion. It now appears that I was very much mistaken.

Here's what happened in the meantime. After discussing the matter with Dave Nieman, he put the policy into effect--after all, it looked as if all the DX report column editors agreed with it. But almost immediately, a couple of DX column editors apparently changed their minds, and started to include the totals in their columns. When Dave saw that totals were still being run in DX reports, he decided to implement the new policy and remove them from the reports. Almost immediately, problems arose, and we managed to offend one or two of our more avid members, quite unintentionally.

We apologize to Jeff Kadet for the "white spaces" on page 39 of the September VUD. We were not trying to "censor" his report, or anything like that --we just wanted to keep the reports in line with the new policy. In the process, we managed to create a minor misunderstanding and made ourselves look awkward. Here's what a veteran DXer said about it, when shown the report: "I appreciate that you are only trying to follow a new policy for reporting procedures, but this looks like you are censoring a DXer's comments. Life is too complicated already--do we really need such a restriction? Feel free to cut out any vulgarities or insults from DX report columns, but don't restrict free speech..."

We asked for WTFDA member comments on this a few months ago. Many responded, and just about everyone had something interesting to say about it. Altogether, the mail ran roughly 3 to 1 against the new policy. One of the best arguments was made by a member who has been with WTFDA almost from the beginning: "...another thing that infuriates me so VERY much about the totals question is that the policy is so very trivial and NIT-PICKING, because putting totals in people's reports has probably never hurt any one person in any one DX club, anywhere, since DX was invented."

We would like to thank all of you who took time to respond to our request for comments on this matter. We now have hard evidence, in the form of your letters, that the deletion of totals from DX reports was a bad idea. Many interesting suggestions were made on just how club H.Q. should decide on such policy in the future.

--Bill Thompson

# WORLDWIDE TV-FM DX ASSOCIATION

ALABAMA  
MICHAEL HOLLIS, ENTERPRISE

ALASKA  
ROBERT F FISCHER, FAIRBANKS

ARKANSAS  
DAVID O'DELL, LITTLE ROCK  
VERNON EATON, BENTON

CALIFORNIA  
JOHN M JEFFERSON, PLEASANTON  
CHESTER JAFFEE, BERKELEY  
W R MCINTOSH, GRANADA HILLS  
WILLIAM HIGGS, PEBBLE BEACH  
PETER TAYLOR, SAN FRANCISCO  
DON ERICKSON, RIVERSIDE  
RANDY MILTIER, SANTA CLARA  
SHELDON REMINGTON NIKE, FAIRFAX  
LAWRENCE GLASS, MAD RIVER  
ALPHONSE TOBIA, NEWARK  
PAUL SWARINGEN, SUN VALLEY  
ERIC SUNDIUS, SANTA BARBARA  
ALBERT S LOBEL, SAN DIEGO  
GENE COOPER, LOMPOC  
JIM KORN, SAN FRANCISCO  
HOWARD BARTLETT, LONG BEACH  
RANDY MILTIER, SANTA CLARA  
WILLIAM BEAMER, CANOGA PARK

COLORADO  
FRANK LUMAN, LITTLETON  
RICHARD ECKMAN, BOULDER

CONNECTICUT  
JOHN RAMSEY, WEST HARTFORD  
DAVID WILSON, BRIDGEPORT  
RICH TURCSANY, FAIRFIELD  
MIKE BUGAJ, ENFIELD

FLORIDA  
KEN SIMON, LAKE WORTH  
JOHN SULAK, ALTAMONTE SPRINGS  
JIM GILL, BRADENTON  
CLIFFORD RAMES, HOLLYWOOD

GEORGIA  
ROOSEVELT CRAWFORD, HEPHZIBAH  
NICK LOMBARDI, ATLANTA  
DR JAMES SNOW, DARIFN  
DAVID SHAPIRO, GRIFFIN  
GEORGE ROGERS, CHICKAMAUGA

HAWAII  
ROD O'CONNOR, HONOLULU

IDAH0  
ROBERT J WILLIAMS, TWIN FALLS

ILLINOIS  
ALAN MILLMAKER, CENTRALIA  
MARVIN SHULTS, TOULON  
ROGER SABELLA, CHICAGO  
ANDREW JACKSON, CHICAGO  
GARY OLSON, LAKE FOREST  
MORRIE GOLDMAN, CHICAGO  
MIKE HOGAN, BURNHAM  
WILLIAM JOHNSON, CLARENDON HILLS  
JIM JENNINGS, CHICAGO  
TIM CRONIN, WORTH

## MEMBERSHIP LIST JANUARY 1984

WILLIAM ECKERBERG, DIXON  
SAM MCKEE, DECATUR  
MARIO PANZICA, NORRIDGE  
EDWARD SIROVY, WESTMOUNT  
JOHN CLEMMER, E MOLINE  
JEFF KADET, MACOMB  
LFS BROOKS, CHAMPAIGN

### INDIANA

PETER OPRISKO, WHITING  
MICHAEL MCNEELY, EVANSVILLE  
THOMAS CORNELL, GREENFIELD  
DR FLOYD B WALKER, FT WAYNE  
ROBERT ZENT, HUNTINGTON  
RALPH STROBEL, MUNCIE  
JOHN W COMSTOCK K9KFL, WESTVILLE  
DAVID BRUMFIELD, RICHMOND  
JIM GOULD, KOKOMO  
JIM WIXON, LAKE STATION

### Kansas

ROBERT PAKER, HUMBOLDT  
BOB HEMPEL, MANSON  
LEE VULGAMOTT, WILLIAMS  
MICHAEL SMITH, DES MOINES  
ROBERT LANGRIDGE, DAVENPORT

### Kentucky

DAVE POMEROY KTWU, TOPEKA  
PAUL MITSCHLER, TOPEKA  
ROGER BORTREE, WICHITA  
RONALD GINARDI, FRONTENAC  
STEVEN TAAFFE, TOPEKA  
MIKE DEROO, ROELAND PARK  
RON WING, WICHITA

### Louisiana

MIKE DORNER, METAIRIE  
RON LERLANC, MARRERO  
MARK WILSON, WEST MONROE

### Maryland

THOMAS YINGLING, BALTIMORE  
DONALD BLEVINS, BALTIMORE  
WILLIAM FEIDT, COLUMBIA  
HENRY S HOLBROOK, CHEVY CHASE  
JEFF WOLF, SILVER SPRING  
GEORGE JENSEN, BALTIMORE  
PAXTON E PICKRELL, MT AIRY

### Massachusetts

HARRY FLOCKHART, RANDOLPH  
HAROLD LANE, CARLISLE  
RICHARD STEINBERGER, HUDSON  
PHIL SULLIVAN, ACTON  
ERNEST R COOPER, PROVINCETOWN  
BILL GRANT, WORCESTER  
GEORGE MILEON, LYNN  
WILLIAM R SMITH, UXBIDGE  
ALAN MICHALEK, SPRINGFIELD  
LARRY WEIL, ACTON

### Michigan

ROBERT GRANT KOSEN, DETROIT  
RODERICK LUOMA, LIVONIA  
JOHN ROBERTSON, CROSWELL  
DENNIS P DAKIN, MT CLEMENS  
THOMAS MISHLER, FLINT

LEONARD JOZWIAK, DETROIT  
PHILIP ROERSMA, SPRING LAKE  
DAVID RILEY, REDFORD  
PAUL GAINES, DETROIT  
ROBERT B JOHNSON, BIG RAPIDS  
DOUG DORNbos, TRAVERSE CITY  
DOUG MCABEE, GOODRICH

### Minnesota

DAVID LEGLER, ROCHESTER  
JOHN EBELING, BLOOMINGTON  
RONALD PURDUE, BYRON  
PATRICK DURKIN, WEST ST PAUL

### Mississippi

PETER BASKIND, GAUTIER

### Missouri

RONALD GREEN, JOPLIN  
RICHARD EDDIE, ST LOUIS  
LONNIE NINE, MONETT  
TOM COPFLAND, GREENFIELD

### Montana

DONALD MARSHALL, GREAT FALLS

### Nebraska

DR BRUCE ELVING, KEARNEY  
DANIEL BARTEK, WAHOO  
NEIL ZANK, LINCOLN

### New Jersey

BILL FAHBER, BRIDGETON  
HARRY L HELMS, GUTTENBERG  
ROBERT SCHWIFTZER, E BRUNSWICK  
ROBERT STONIER, HAWTHORNE  
ALBERT PANTAZES, ABSECON  
GERALD BARKOW, MORRIS PLAINS  
PAUL R MOUNT, TEANECK  
JOE FFLA, SOUTH PLAINFIELD  
JOHN WALTERS, VINCENTOWN

### New Mexico

JIM PIZZI, LOVINGTON

### New York

NEIL GRANDJEAN, CROPSEYVILLE  
JOHN STOFFEL, SAG HARBOR  
JEFF MCIVER, BROOKLYN  
PAUL TRASKA, BUFFALO  
MIKE EHRHARDT, ALDEN  
HAROLD HAWKINS, PORT CHESTER  
GERARD HART, NIAGARA FALLS  
JOSEPH SMITH, JOHNSON CITY  
BILL THOMPSON, BUFFALO  
BOB SEYBOLD, DUNKIRK  
DAVE NIEMAN, AKRON  
ERIC FADER, BAYSIDE  
JAMES HERKIMER, CALEDONIA  
DEAN BIANCO, EASTCHESTER  
ROBERT GOODMAN, BRONX  
FRED NORDQUIST, CLAY  
MICHAEL LAPINSKI, JAMESTOWN  
STEVEN SPRACHMAN, SUNNYSIDE  
ALAN HYAMS, BRONX  
JAY M NOVELLO, ENDWELL  
DAVID WALCUTT, NEW YORK CITY  
WILLIAM GILBERT WD2RWV, KINGS PARK  
ARNOLD M LAZARUS, SAYVILLE  
GERALD PULICE WB2CPA, STATEN ISLAND

### North Carolina

LES PRICE, WILMINGTON  
BILL COLEMAN, ROCKY MOUNT  
THOMAS HOLMES, CHARLOTTE  
CHRISTOPHER HANLEY, WINSTON-SALEM

### North Dakota

FRED MCCORMACK, FARGO

### Ohio

BILL MIGLEY, LANCASTER  
RICHARD HAWKINS, CINCINNATI  
MIKE BREWER, FRAZERSBURG  
WILLIAM C PALMER, WADSWORTH  
CARLON HOWINGTON, AKRON  
JOHN BUEHLER, TOLEDO  
JAMES J WALLACE, BELLAIRE  
FRANK MERRILL, TOLEDO  
PAUL W BUHLER, OREGON  
PATRICK RUDOLPH, WADSWORTH  
TOM LITTLE, TOLDO  
GARY SIEGFELD, TOLDO  
K NOFFSINGER, TIPP CITY  
DAVID MOODY, WEST PORTSMOUTH  
JOHN PARILLO, GIRARD  
DAVE JONES, DAYTON  
ROBERT EDDY, NEWPORT  
WILLIAM SCULLY, HUDSON

### Oklahoma

DAVID ROGERS, FT SUPPLY  
DANNY BUNTIN, STILLWATER  
RICHARD N ALLEN, BILLINGS  
JOHN ZONDLO, OKLAHOMA CITY

### Oregon

TRACY WOOD, HILLSBORO  
PAUL WARDELL, PORTLAND  
JOHN M ADAMS, SEASIDE

### Pennsylvania

STEVE WEST, HAVERTOWN  
STEVE CHUDOFF, PHILADELPHIA  
ARMAND DIFILIPPO, PHILADELPHIA  
JOHN ZEIS, EXTON  
LOUIS CAMPAGNA, PHILADELPHIA  
GLENN JACOB, MOSCOW  
DANIEL OETTING, BROOMALL  
HARRY HAYES, GOULDSBORO  
ED KOWALSKI, PHILADELPHIA  
DAVID RAUDENBUSH, PINE GROVE  
JIM HOPKINS, HATFIELD  
JOHN BASEHORE, MECHANICSBURG  
JON W ERDNER, PITTSBURGH  
STEVEN PARADIES, SELINSGROVE  
FRANK WHEELER, ERIE  
STEVE GRIMM, FAIRVIEW  
KURT NELSON, PHILADELPHIA  
RICHARD REES, JERSEY SHORE

### South Carolina

MORGAN L WILLIAMS, WEST COLUMBIA  
ERIK NAGEL, TAYLORS

### South Dakota

ROBERT HECKENLIVELY, YANKTON

### Tennessee

TIM MCVEY, BOLIVAR  
JIM AYERS, MURFREESBORO  
GLENN HAUSER, KNOXVILLE  
CHRIS W JOHNSON, MEMPHIS

TEXAS  
VERRELL TALLETT, PLAINVIEW  
RICK SAMFORD, BURNET  
PAT DYER, SAN ANTONIO  
DAVID CURVIN, SAN ANTONIO  
JOE GRAGG, PALESTINE  
DAN SAMER, BAY CITY  
ARTIE RIGLEY, SAN ANTONIO  
CHARLES GEORGE, DALLAS

VIRGINIA  
JAMES BROWN, ARLINGTON  
LARRY VOGT N4VA, SPRINGFIELD  
F R COTTON, CHESAPEAKE  
GREGORY MONTI, ARLINGTON  
MEL MURRAY, ALEXANDRIA

WASHINGTON  
CLINT MCMAULIFFE, BELLEVUE  
PHIL RYTHEWAY, SEATTLE

WEST VIRGINIA  
JAMES KINGSBURY, GRANTSVILLE  
WILLIAM D SWIGER, BRIDGEPORT  
MICHAEL CUNNINGHAM, HARRISVILLE

WISCONSIN  
DAVE JANOWIAK, GREENFIELD  
JOHN BAUMGARTEN, TOMAH  
DAVID M WURL, MARSHFIELD  
NATHANIEL ELY, MADISON  
BILL DRAFB, KEWAUNEE  
DANIEL SAMPSON, BLACK RIVER FALLS  
EDWARD RITCHIE, GREENFIELD  
JIM ALBRIGHT, MILWAUKEE  
ARTHUR SCHAEFER, SHEBOYGAN  
JOHN LENTZ, HALES CORNERS  
DON RULAND, KENOSHA  
JOHN RIEGER, WEST ALLIS

DISTRICT OF COLUMBIA  
WILLIAM TOWNSHEND, WASHINGTON

ALBERTA  
DFANE D MCINTYRE, EDMONTON

BRITISH COLUMBIA  
GORD LANSDELL, N VANCOUVER  
MATTI NIIT, VANCOUVER

NORTHWEST TERRITORIES  
WILLIAM R HEPBURN, EURFKA

ONTARIO  
PETER SAWATZKY, KITCHENER  
TIM BROWN, DON MILLS  
ALEXANDER DUTKEWYCH, TORONTO  
JOHN GRIFFITHS, ANCASTER  
MIKE REID, NORTH YORK  
ROGER GRAVELLE, ST THOMAS  
WALTER PATTON, WILLOWDALE  
SAUL CHERNOS, TORONTO  
ROBERT S ROSS VE3JFC, LONDON  
DR JOEL ROSENBERG, THORNHILL

DOMINICAN REPUBLIC  
RICHARD K CLARK, LA VEGA

THE NETHERLANDS  
RFNELUX DX-CLUB, SINT MICHELGESTEL

OKINAWA  
JAMES STILES

PUERTO RICO  
JORGE BURGOS, SAN JUAN

PERU  
MARIO ALIAGA, HUANCAYO

SAUDI ARABIA  
DR RICHARD E WOOD, ASHA

TOTAL MEMBERS: 265  
LIST COMPLETED: 12/20/83

## STATION BREAK

WTFDA member ads only. 3 line or 30 word limit.

WANTED - To trade TV GUIDE editions from your area. Have NYC Metro, and many others to trade. Robert E. Schweitzer, 7 Madeline Ave., E. Brunswick NJ 08816

WANTED - Old and more recent radio club bulletins--any club--American or Foreign. Bill Smith, Brown Terrace, Uxbridge, MA 01569.

WANTED - Back issues of VUD. Will pay 50¢ each plus postage. Please send list of what issues you have. Michael Cunningham, Box 615, Cooper St., Harrisville WV 26362.

WANTED - These VUDs to complete my collection: Apr. 1977, Apr. 1978, May 1978, Nov. 1981 to Sept. 1982, Jan. 1983, Apr. 1983. Will pay \$\$\$ or I have almost all 1972 to 1974 for trade. Jeff Kadet, Box 20, Macomb, IL 61455

## EXPERIMENTS WITH A HOME BREW FM YAGI

BILL  
by THOMPSON

### PART THREE

Part One of this series appeared in the March 1983 VUD. Part Two was in the April issue, and Part Three is what you're reading right now. Because of some interesting input from VUD readers, there'll be a fourth part. In the meantime, I seem to have been rudely interrupted by the DX season!

To get back to the subject, you may recall that I started out to see if it was possible for an enthusiast to outdo the performance of a commercially available FM antenna.

At this point, we need to go into a bit of antenna theory, but let me tell you something I learned from this project first. Thinking about building a 12 element FM yagi as at left and making it work as well as it looks like it should

versus Practice. Anyone with an interest in this area of electronics knows what I mean by this; Practice seems to win out over Theory very often!

The gain of any antenna is really a result of its pattern in the horizontal and vertical planes. High gain in all the variations on the yagi design, as discussed previously in this series, are achieved by the use of multiple directors. More directors imply increasing directivity. The higher the directivity gets, the narrower the beamwidth becomes. The narrower the beamwidth, the higher the gain. Add as many directors as you wish to a yagi, but there will quickly be diminishing returns. In fact, they won't have to be as useful in increasing gain in practice as they are in theory.

I estimate that my 12 element design, after much planning and work, produced not much more than 7 to 8 dB gain, compared to a dipole, on the best frequency, and the difference between this antenna and a Channel Master Stereo Probe which was later mounted at the same height seems to bear this out. This 7 to 8 dB of forward gain was about one could expect from a smaller commercial model with a log periodic design, which would have been less trouble to mount and much less of a wind load--not to mention the smoother frequency response such a log would feature.

Remember, Channel Master's Probe 9 features forward gain that peaks at well over 12 dB at its best frequency, and on a smaller boom with fewer elements. Why doesn't the homebrew antenna with all the "extra" directors feature such high gain, or at least something closer to say, 10 dB? It's simple. Unless you start out with a well-designed feed section, you won't end up with much of an antenna.

Still, you can gain very valuable experience by tinkering with your own antenna designs, and of course, you can learn much from your own mistakes. So even though I now feel that commercial FM antennas are much better than practically anything the experimenter can build, it is still very much worth the effort and time involved.

Part Four of this series will list the physical specifications you can use for building your own FM antenna designs, and we'll try to show what works best for those who wish to homebrew.